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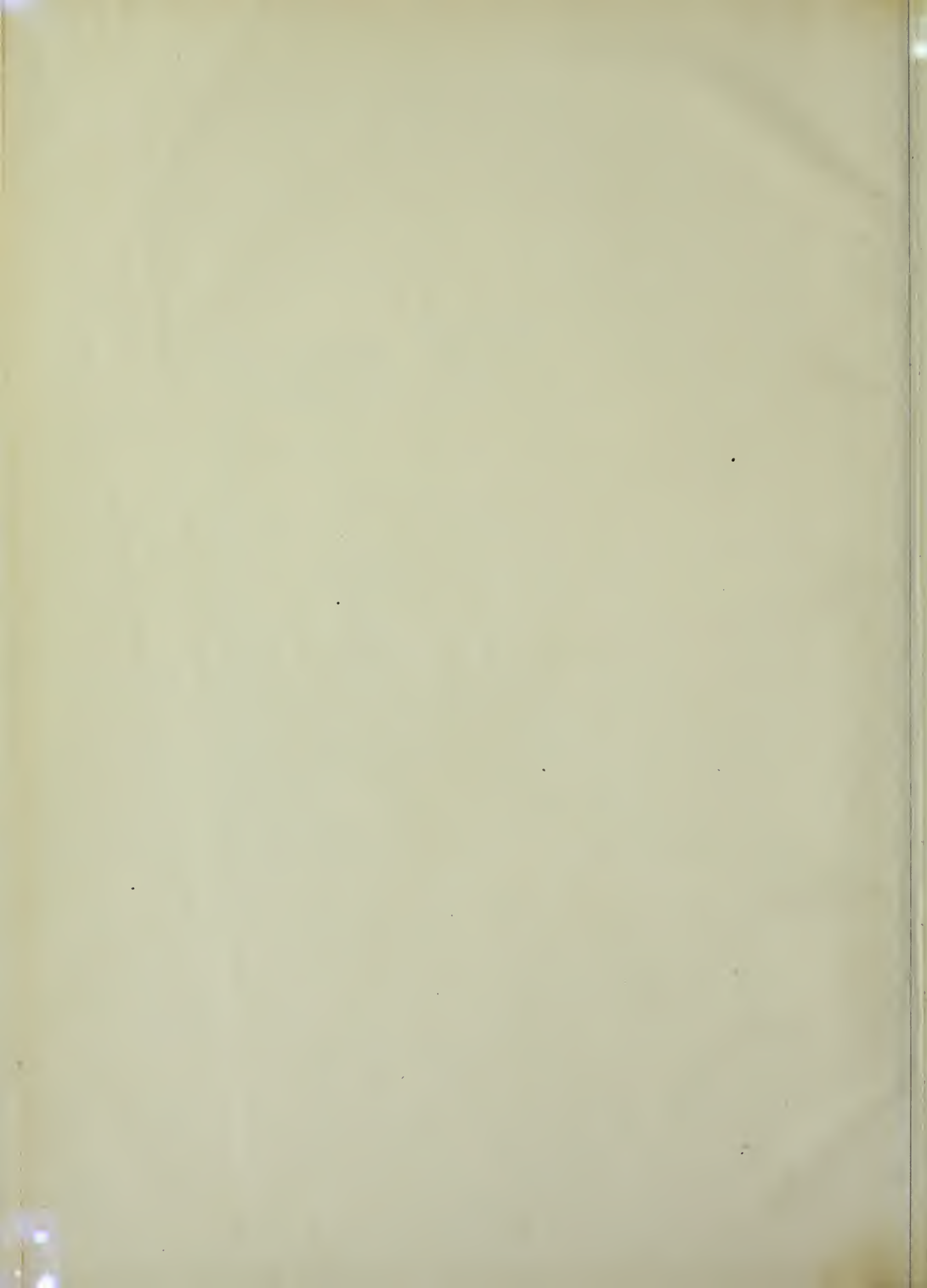
EXTRACT

*From an Act prescribing Rules for the Government of the State Library,
passed March 8th, 1861.*

SECTION 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

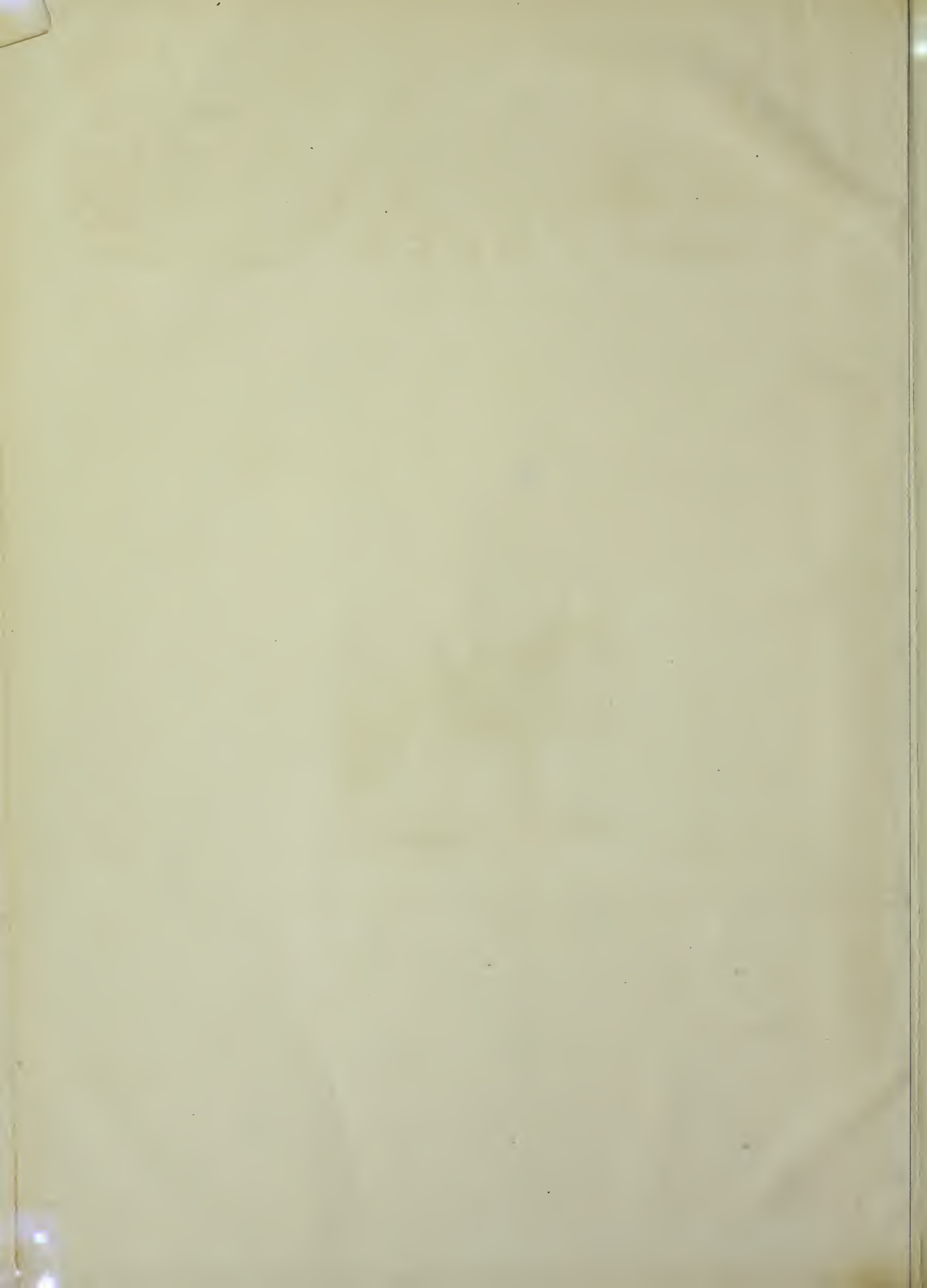
SEC. 15. Books may be taken from the Library by the members of the Legislature and its officers during the session of the same, and at any time by the Governor and the officers of the Executive Department of this State who are required to keep their offices at the seat of government, the Justices of the Supreme Court, the Attorney-General and the Trustees of the Library.

Librarian



Miss Mary Jo
Fairbank
Wood

(R. May, June)
June Barnes
\$19





Volume II.]

SAN FRANCISCO, SATURDAY, JULY 8, 1871.

[Number 1.

The Grasshopper Pest.

We are informed by Mr. Wm. R. Olden, our Los Angeles correspondent, who has been spending several days in this city, that there is much reason to fear that serious damage will be done this season by the grasshoppers, to the crops and fruit in Los Angeles county. This lamentable insect-plague always accompanies our dry seasons, and too often destroys the little remnant of vegetation which has been spared by the drouth.

There is some consolation, however—although it may be slow in coming to fruition—in the unmistakable fact that the ravages of this insect are gradually becoming less and less, with a corresponding decrease in its numbers. Mr. Olden has furnished us with his experience and observation in this matter, gathered through a long residence in Southern California, which we find fully agrees with those collected by Mr. A. S. Taylor, of Monterey county, and published in the Transactions of the Smithsonian Institute for 1858.

It seems that the appearance of this insect, in large numbers, can be assigned to no particular period of time; but is dependent on the greater or less abundance of rain over the region of country where their eggs have been deposited, and their abundance is always in proportion to the dryness of the season. Their last appearance in any considerable numbers, in this State, was in the dry year of 1864. Since that time they have appeared only in limited regions where there has been a local absence of the usual quantity of rain, and where the conditions of hatching have been fulfilled.

Their eggs are always deposited in dry localities, and where the ground is comparatively or nearly bare of vegetation. Their instinct teaches them that warmth and dryness, and the absence of shade are essential to the vivification of their eggs, which they always lay in large companies, and deposit only a half an inch or so below the surface.

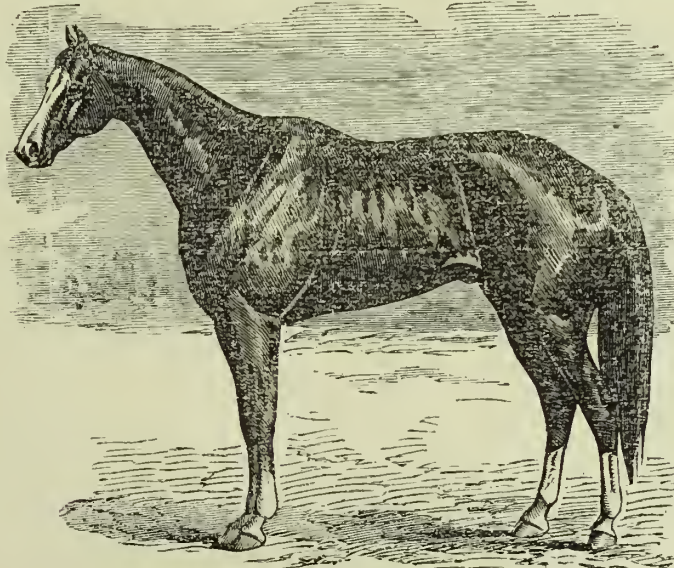
Means of Destroying Them.

In thinly populated regions, as California was before the advent of the gold seekers, fire is often employed to this end, it being set after the herbage becomes dry, and just before they commence laying; but, of course, such a remedy at the present time is out of the question. The insect must now be allowed to complete the end of its existence, and the eggs must there be looked after.

Thorough and complete cultivation will most effectually destroy them. If the ground upon which they have laid their eggs is once turned over to any considerable depth by the plowshare, the eggs can never receive the warmth requisite for their vivification. If the rain falls in sufficient quantity to produce the usual amount of vegetation, the shade even of such growth effectually keeps the eggs back from year to year, until a dry season occurs, and the necessary hatching conditions are met.

In the early days of the Mission Fathers on this coast, this part of the State was much troubled by these pests, although not so much as the more southern portions, on account of the excess of rains here; but the advent of the cultivators, with plowshares and harrows, has pretty nearly killed them out; so we hear but little of them north of Gilroy, and only in limited localities. As the more southern portions of the State are settled up, and larger quantities of land are brought into cultivation, the grasshopper pest will gradually disappear.

So in our foothills—they are now found only in localities where drouth prevails, and where the timber has been cut off, or the ground otherwise exposed to the direct rays of the sun. A more general cultivation of the mountain valleys and clearings, will gradually decrease the pest. The abundance of irrigation which now seems



THE CELEBRATED TROTTER, DEXTER.

to be promised, will also do much to check them by bringing into cultivation the dryer localities which the grasshopper, with his unerring instinct, always seeks, as the most favorable locality for securing the continuance of his species.

THE VINTAGE FOR 1871.—The season is now so far advanced that the character of the grape crop can be pretty well determined, as the fruit is well out of danger from any source. It has suffered some in Los Angeles county from the grasshopper scourge and slightly by frost in Napa, Solano, Yuba, Tehama and Colusa counties; but only in isolated places and nowhere to any considerable extent. As a general thing, so we infer from our exchanges, the fruit has set well and filled better than during any former season for the last three or four years. The coming vintage is variously estimated at from five to eight millions of gallons, which will command a better price and more ready sale than on any previous year. The demand for California wine is rapidly increasing.

CURRENTS.—The exhibition of currants in the market, this year, is unusually fine, and it would greatly benefit the State, to have some of this fruit sent East.

Celebrated Trotters.

In view of the interest which is now being taken in this State in regard to the "style and speed" of horses, we have procured and shall give, in successive numbers, portraits of nine of the most celebrated trotting horses which the country has produced. These portraits were originally prepared for *Moore's Rural New-Yorker*, and are so spirited and life-like that any one who is at all familiar with them, will at once recognize them in the "counterfeit presentments," which we shall give. We shall subjoin a brief description, pedigree, etc., of each of these famous animals, as we give them, in turn. We commence to-day with the most celebrated of the group, giving the description which was prepared originally for the paper alluded to, by one of the best posted horsemen in the country. No one who has

fastest two miles to wagon, 4m. 56¼s. He is good in all ways of going—light weight, heavy weight, good track, muddy track. It is certain that no other horse ever enjoyed so wide a reputation, unless it was Flying Childers or English Eclipse. It is probable the greatest feat he ever performed was at Prospect Park Course, last fall, when, after having been driven from Mr. Bonner's stable in New York, he trotted a mile to road wagon in 2m. 21¼s., pulling 319 pounds of weight. His speed this year exceeds that, however, for to another road wagon Mr. Bonner has driven him half a mile at Fleetwood Park, in 1m. 6¼s., with 305 pounds behind him. The best judges think that he has never yet shown all that he is capable of doing; and he is rightfully pronounced a King among horses.

The Merced Cotton Experiment.

We have received a specimen stalk from Col. Strong's cotton plantation in Merced, which measures 24 inches in length. This shows a good growth for less than eight weeks from planting. The stand, we are informed, is considered a very good one; much better than could have been expected from the unfavorable weather which has prevailed since the plants made their appearance. The fields bid fair to turn out far above the average of the best lands of Mississippi and Tennessee, even in their best seasons. We regard the experiment as one of the most important ever undertaken in the State. If it is successful this year, notwithstanding the drouth and the cold, windy weather which prevailed throughout the month of May and a part of June, we may regard the problem of cotton growing in California as definitely settled, and a mine of wealth opened up to the State, worth more than either our gold or grain. We shall carefully note the progress of the growth and maturing of this crop, and publish the same for the benefit of our readers, as many of them will no doubt, in the event of Col. Strong's success, feel encouraged to test the soils of their respective farms, with a view to this crop—one of the most profitable which can be grown.

SALT LAKE.—Our associate, I. N. Hoag, of Sacramento, has gone to Salt Lake in behalf of the State Agricultural Society, to induce co-operation on the part of the residents of that Territory in the California Fairs, and the purchase of fine stock here instead of going Eastward for it, as the present custom is. The mission is an important one, and we believe its successful issue will work to the advantage of the residents of that region as well as to the people of this State.

RECEIPTS OF GRAIN AND FLOUR.—The receipts of California grain and flour at San Francisco, for the harvest year, ending June 30th embraces 4,496,000 centals of wheat and 481,500 sacks of flour.

GOLD IN CONTRA COSTA.—The Antioch Ledger reports the discovery of auriferous sands, on Marsh creek, Contra Costa county, which yield 50 cts. to \$1 to the pan.

MECHANICAL PROGRESS.

THE HELIOTYPE PROCESS.—In *Nature* for June 1st, W. H. Harrison describes the late improvements by Mr. Ernest Edwards. We quote from the part in reference to the working details:—"The films are prepared upon large sheets of accurately leveled finely ground glass, technically known as 'greyed glass,' about 22 inches by 18 inches is a convenient size. The surface of the glass is first polished by means of a clean piece of rag, with a little solution of wax in ether; the exceedingly thin film of wax thus left upon the glass permits the dried gelatine film to come off easily. The glass plates after being waxed are leveled, and then a measured quantity of a warm mixture of gelatine, bichromate of potash, chrome alum, and water, is poured upon each plate from a jug with a piece of muslin tied over its mouth. The temperature of the solution in the jug is about 150° Fah., and after it is poured over the plate it sets in a very few minutes, but it requires a much longer time to dry. Curiously enough, until it is dry it is not sensitive to light; this fact was found out accidentally, for at first this part of the operations was carefully carried on in yellow light. After the film is set, the plates are taken into a dark room to dry. If any of the fumes given off by burning gas escape into this room, they act upon the film just as light would do, therefore although a gas stove is used to dry the plates, the products of combustion are very carefully carried off. * * At a temperature of 90° the films take about twenty-four hours to dry. As they dry they contract slightly, and thus separate themselves from the glass. These dried films are technically termed 'skins,' they are of an orange color, and about one-tenth of an inch thick. The picture is printed on them from a negative, and a faintly visible image is formed; when this image is fully cut the films are removed to a dark room. Here each skin is floated in water, and caught upon the surface of a thick plate of zinc; a flat piece of wood, edged with india-rubber is then scraped with considerable pressure over the film, so as to squeeze out all the water between the skin and the zinc. As the film still continues to absorb moisture, it is thus fixed to the zinc with the whole pressure of the atmosphere. After this the zinc with its attached film is left for half an hour at least in a large vessel of water, for the superfluous bichromate of potash to soak out, and then the film is no longer sensitive to light. If the film be thus soaked for several hours, or even days, it does not suffer. The film, upon its zinc plate, is now ready for the printing press. It is damped between each impression, just like a lithographic stone. Then it is inked, and the best roller for the purpose is found to be one made of india rubber, backed inside with 'india-rubber sponge' to give additional softness. Ordinary lithographic ink is used. If stiff lithographic ink be employed, the surface will only 'bite' where light has acted most; if thin ink be used, the leathery surface will only bite in the half tones of the picture; hence each picture is produced by two inkings, and advantage is taken of this circumstance to use two colors, and get warm shades in the half tones. It is very interesting to see the picture gradually growing under the inking process. By this method double-printing is executed with a single pull at the press."

DUCKHAM'S HYDROSTATIC WEIGHING MACHINE.—We copy the description from the *Engineering and Mining Journal*:—"The apparatus is simply composed of a piston and cylinder, which may be suspended for use from any crane hook; it is filled with water, which has a connection with an ordinary hydraulic pressure gauge fixed on the exterior of the machine. The piston rod passes downward through the cylinder bottom, and forms a means of attachment for the goods. Immediately these are lifted, as in loading or unloading ships or wagons, the weight is shown on the gauge dial without the slightest extra labor or manipulation, and, consequently, without cost. The piston is fitted with cupped leathers of such a shape as entirely to obviate leakage, as the water cannot escape, and is in itself incompressible. There is no movement of the piston, and, consequently, no friction to affect the accuracy of the weight denoted. Moreover, to insure absolute correctness, each dial is marked to indications given by the attachment of actual adjusted weights or strains to each machine. One of the most note-

worthy features in connection with this invention is, that whereas the few weighing contrivances which exist in other design of large capacity are almost too unwieldy to be worked at all, a Duckham 30-ton machine complete weighs only 2½ cwt. It may be transported from place to place and attached for use by a single man. The 1-ton machine has a piston area of only 7 in., and weighs only 18 lbs. It is only necessary to regulate the strength of the metal to obtain a weighing machine light and delicate for low weights, or a machine combining in an eminent degree lightness and portability, but of sufficient power to indicate any amount of strain which can be possibly applied to it."

PRESSURE OF FIRED GUNPOWDER.—In a lecture before the Royal Institution, Capt. Andrew Noble, F. R. S., describes the latest experiments upon the firing of gunpowder in closed chambers. We quote the conclusions drawn therefrom:—"The maximum of pressure of fired gunpowder, unrelieved by expansion, is not much above 40 tons to the square inch. (2) In large guns, owing to the violent oscillations produced by the ignition of a large mass of powder, the pressure of the gas is liable to be locally exalted even above its normal tension in a perfectly closed vessel, and this intensification of pressure endangers the gun, without adding to useful effect. (3) Where large charges are used quick-burning powder increases the strain upon the gun, without augmenting the velocity of the shot. (4) The position of the vent or firing point exercises an important influence on the intensity of wave action, and in further enlarging the dimensions of heavy guns we must look to improved powder and improved methods of firing the charge, so as to avoid as much as possible throwing the ignited gases into violent oscillation. (5) That in all cases it is desirable to have the charges as short as possible, so as to reduce the run of the gas to the shortest limit. Hence increase of the diameter of the gun by shortening the charge tends to save the gun from abnormal strains."

ELECTROTYPE IMITATION OF LEATHER.—The following is from the *Mechanics' Magazine* for May 12th:—"Messrs. Elkington & Co., of Birmingham, have arranged to produce by the electrotype process, imitations of the choicest grains of leather, by means of electro-deposited copper rollers. The system may be briefly described as follows:—An ordinary machine roller is fitted with a mandrel, upon which is deposited, by a new process, the copper facsimile. The latter is an exact copy of any rare or choice skin required to be reproduced, and it is only by a recent improvement in electrotyping that the difficulty of depositing from such a substance as leather has been surmounted. An ordinary skin can thus be impressed with the beautiful surface of morocco skin, even to the finest variations of grain, and several thousand may be copied by one deposit. In all cases the actual skin required to be copied must be sent. The rollers are supplied ready for the machine; or, if preferred, manufacturers may send their own mandrels and have the fac-simile deposited thereon."

INVENTION FOR BURNING LOCOMOTIVE SPARKS.—We find this in the editorial correspondence of the *Chicago Railroad Gazette*, June 17th:—"In Worcester, Mass., I had an opportunity to examine Mr. Griggs' invention for burning sparks, which is novel, and which according to his account produces remarkable results in the economy of fuel. It consists of a bell-mouthed pipe placed inside the stack in the position usually occupied by the deflector. This pipe extends from the top of the stack backward to the top of the boiler in front of the cab. Thence it branches down on each side of the boiler and connects with openings in the fire box. By this means, all the sparks which are collected by the bell-mouthed pipe are carried back into the fire-box and have a second chance of being consumed."

IMPROVED METHOD OF TINNING CAST-IRON.—"The surface of the cast-iron objects is decarbonized by keeping it for several days in closed vessels with powdered hematite, under the influence of a red heat, until a sample taken out, after being properly cleaned, will take the tinning as easily as wrought-iron. Then the object is slowly cooled, taken out, placed in an acid bath, and plunged in the melted tin alloy, the surface of which is covered with fat or tallow, to prevent oxidation."—*Manufacturer and Builder*.

SCIENTIFIC PROGRESS.

DIAMAGNETIC EXPERIMENTS.—London *Engineering* for June 9th says that the chief novelty at the Royal Institution Conversazione on the 6th was the exhibition of electrical apparatus. We quote a paragraph:—"A powerful electro-magnet was exhibited by Lord Lindsay, and the following magnetic and dia-magnetic experiments were conducted with it and some vacuum tubes belonging to Mr. Cromwell Varley. The poles of the magnet, 2½ in. square in section, were kept 3-16th of an inch apart. A half-crown placed between the poles, when the magnet was not excited of course dropped instantly through, but when the magnet was charged the half-crown was six seconds in falling the distance of 2½ in. In a second experiment a small india-rubber tube, filled with mercury was placed between the poles, and an electric current passed from the battery through the mercury; as soon as the magnet was excited the tube instantly took motion, getting out from between the poles, and curling itself in the form of the letter S, while by reversing the current, the shape of the curve was instantly reversed. Next a coil of copper wire was placed round the vertical pole of the magnet. When the magnet was charged, and a current of electricity sent through the copper coils in one direction, the ring of fine copper wire stuck fast to the magnet. On reversing the electric current, the ring jumped off the pole of the magnet some distance in the air. A lighted taper was then passed through a hole bored along the poles, the light being brought to the space of one-eighth of an inch wide between the two poles; as long as the magnet was excited the light burned brilliantly, the smoke coming out at the extreme ends of the poles, and not rising up directly off the flame, but as soon as the magnet was discharged the smoke rose straight up and suffocated the flame, which was then extinguished. This experiment showed the dia-magnetic properties of warm air. Mr. Cromwell Varley exhibited tubes of various descriptions, to show that the luminous arch was dependent wholly upon the magnetism, and independent of the direction of the electric current. This arch, discovered by Pliicker, has been examined by Mr. Varley, and found to consist of very attenuated matter thrown off from the negative pole. This has been demonstrated in the following manner:—A strip of tale 1-10 in. broad and 1 in. long, weighing 1-10 of a grain, is suspended in the exhausted tube by means of a single fibre of raw silk. When the arch is allowed to play against this piece of tale it is repelled by it. The luminous arch does not burn the silk, yet where it strikes the glass tube it makes the tube hot; from which Mr. Varley infers 'that the electric current passing into the negative pole detaches small particles of matter therefrom, which particles are thrown off with tremendous rapidity, and controlled in their course by the magnetic rays forming the luminous arch, and that the heat in the glass is produced by the concussion of these particles against the solid body.' Lord Lindsay, who is now becoming a well-known experimenter, and who has a very large physical laboratory, was present, and conducted many of the experiments himself. The magnet was excited by a 30-cell Grove battery."

THE GENERAL OCEANIC CIRCULATION.—From *Nature* for June 8th:—"Having ascertained the existence of an outward under current in the Strait of Gibraltar, which carries back into the Atlantic the water of the Mediterranean that has undergone concentration by the excess of evaporation in its basin, Dr. Carpenter applied himself to the consideration of the forces by which the superficial in-current and the deep out-current are sustained; and came to the conclusion that, as had been previously urged by Captain Maury, a *vera causa* for both is to be found in excess of evaporation, which at the same time lowers the level and increases the density of the Mediterranean column as compared with a corresponding column of Atlantic water. This conclusion, when scientifically worked out, was found to be applicable, *mutatis mutandis*, to the converse case of the Baltic Sound; in which, as was long ago experimentally shown (with a result that has recently been confirmed by Dr. Forchhammer), a deep current of salt water flows inwards from the North Sea, whilst a strong current of brackish water sets outwards from the Baltic, the amount of fresh water that drains into which is greatly in excess

of the evaporation from its surface. Comparing, then, the Polar and Equatorial areas, it is shown by Dr. Carpenter that there will not only be a continual tendency in the former to a lowering of level and increase of density, which will place it in the same relation to the latter as the Mediterranean bears to the Atlantic, but that the influence of Polar cold will be to produce a continual descent of the water within its area; thus constituting the *primum mobile* of the General Oceanic Circulation, of which no adequate account had previously been given. This conclusion has been most explicitly accepted by Sir John Herschel."

MORE ABOUT THE NERVOUS ATMOSPHERE THEORY.—The following is an extract from the paper by Dr. Richardson to which we have once before alluded:—"The longer we think of the phenomena of muscular motion—and, indeed, of all motion in the living animal body—the less we are able to regard with favor, on the evidence before us, the hypothesis of one force in the organism, and of nerves and nervous centres as producers and conductors of that force; while we are the more inclined to extend our relations of life to the universe as a whole, and to take in every motion as belonging to our living receptive organization. But in order rightly to conceive the adaptation of the organism to the universe, the ideal of a nervous fluid, a true physical something pervading the nervous system, as the first, neuro-physicists taught, is indispensable. It, and it alone, affords the connecting-link between force and matter by which force can move matter. Why cannot force—electrical, if you will—move a muscle that has actually passed into the inertia of death? Why, but that the muscle—or, rather, the nervous matter it contains—has lost some physical thing, without which it is dead to force? Why will not the dead eye see? Why, but that it has lost some physical thing with which it was wont to be charged, and through which the wave of light could extend vibration? Why, when I freeze a part of the surface of the body, will not the frozen part feel? Why, but that in the act of freezing I have condensed or have expelled from the nervous matter of the part the physical agent by which the part was connected, in arrangement and condition, with the same agent in the other portions of the nervous organism? Why, when I make an animal inhale a narcotic vapor, do I produce general insensibility?—Why, but that I distribute through the whole nervous system a foreign substance, which interferes with the natural condition for motion of the nervous matter."

OFFICE OF PROTOPLASM IN FORMATION OF TISSUE.—The following is from Prof. Wyville Thomson's lecture at Edinburgh University:—"It is impossible in the present state of knowledge to subject any view as to the ultimate mechanism of the formation of tissue through the means of protoplasm to direct proof. It seems now to be a very generally received opinion, supported by Huxley, Max Schultze, Hofmeister, Beale and many others, and notably by Oscar Schmidt, who would seem to bring it almost to demonstration in his beautiful researches on the sponges of the Adriatic, that protoplasm is simply converted, with a certain change of composition, into tissue or 'formed material.' There are, however, almost insuperable objections to this view. The secondary products of organization (formed material) are most various in their chemical constitutions, and it involves the admission that protoplasm may change in its chemical composition till it is almost carbonate of lime, or silica, or starch, or horn or cellulose; the last stage of the metamorphosis being its absolute separation as one of these bodies. Another view which I have always regarded as more probable is that protoplasm, the substance which is endowed with the peculiar vital property, has always the same composition, and that it acts simply by catalysis, inducing, under certain known laws, decomposition and recombination in compounds which are subjected to its influence, without itself undergoing any change, absorbing the nascent products of combination and decomposition, and recombining them and reserving them with reference to the development or maintenance of the organ to which it gives its life."

A HUMANE way of killing insects for preservation is to drop them into a jar of carbolic acid gas. This does not injure their colors in any way, but kills them quickly. The gas may be easily retained in a stoppered bottle, and is very easy to make.

CORRESPONDENCE.

Notes on Half Moon Bay.—No. 3.

Potatoe Culture.

The potato is a good crop with us, and occupies a prominent place among our products. Planting commences as early as December, and continues till about June. Digging commences the last of April and continues late in the fall. The yield of the earliest planted is generally light; in many cases not amounting to anything. This spring has been unusually severe upon such, owing to continued cold north winds—being almost entirely destroyed where not well sheltered. The land has, however, been again planted with late potatoes, or sown to English mustard or buckwheat; so the use of it will not be lost, the later planting is now coming in, and is a good crop. Two crops are usually made on early potato ground. After the potatoes are dug, the land is plowed and beans dropped and covered in the furrows; sometimes mustard or buckwheat is substituted. In either case it is as good as a summer fallow for a grain crop the year following. The best potatoes are raised in the sandy bottom lands—alluvial deposits—but as such lands are of small area most of the potatoes are raised in the black sandy loam; even to the top of the hills.

Seed Potatoes.

Considerable injury is made every planting season for potato seed; no one appears satisfied to replant their own, they want something better; they even want something better than their neighbors. Quite a lot of Humboldts have been planted this season. Humboldts having a good reputation were thought to be the best change of seed to be had. With some who have tried them heretofore they are no favorites, not doing with them any better than our own seed; at least not till planted two seasons. Some say they do not do so well. As there are doubtless worthless Humboldts, as well as of other kinds, the fault was probably in the brand they tried. I have seen some hard looking ones come here for seed. The best brand of Pescadero, two or three years from Humboldt seed, appear to all do better and have been planted extensively. But with all that no such potatoes are now raised as were eight or nine years ago—neither in quantity nor quality. The San Francisco dealer knows that a real good potato is hard to get, and that the good ones are confined to a very few brands. It cannot be said that the land runs out, for land equally rich is broken up every year.

We know that the potato country changes from place to place. Union City and Centerville, were all the go in the early days; then came Bodega, Tomales, Humboldts, Lone Bay, etc. The best now come from the last three named, and even there the prime article is confined to a very few brands. How long they will hold the sceptre remains to be seen. They have held it longer than the others, probably for the reason that with the fate of their predecessors before their eyes, they have taken more pains with the cultivation, and more particularly in the selection of their seed. I refer to the late potatoes. The cultivation of the earlies has increased very rapidly with us, and no better potatoes find their way into market early in the season than those from Half Moon Bay. The seed potatoes introduced direct from the States, by the Americans, in their first settlement of this country, astonished the natives by their great yield and superior quality. They had been planting their potatoes here, over and over again, till they were small potatoes indeed. I am inclined to believe that we are following in their footsteps, and unless we change about we shall also, soon get into the small potato business.

New Varieties.

In the Eastern States the great value of the potato crop is well understood, and more attention is being given to maintain a high standard of excellence. New varieties are introduced every year to take the place of those inclined to run out or which have proved of no value. We have not the experience, and may I say—not the time or means to originate new varieties; but we should by all means introduce into our State from the East, the new varieties, as they are proved valuable. There is no fear that they will suffer by the change; *per contra* they are most likely to improve.

With the facilities of the railroad, it is no trouble to have any variety one chooses to try at very short notice, and it might prove one of the most satisfactory experiments on the farm.

Among the early varieties, the Early Rose was tried here, but being exposed to the cold winds was destroyed. A few of the "King of the Earlies," a successor to the Early Rose, have been planted and appear to do well. Potatoes the size of a turkey egg were on the vines at the expiration of eight weeks from planting. They are a white potato, with very small vines, appearing to run to tubers rather than to tops.

Another potato, a great favorite in the East, called the "Peerless," a late variety, is being tried on a small scale by a few. They look very well, have a finer, softer foliage than the old stock, of a lighter green, and, as a stock fancier would say, show more of the thoroughbred. One objection to these potatoes is that they are white, the favorite color at the East; while with us the red has the preference. I will send you an item in regard to these potatoes when they are dug, and let you know how they do.

Irrigation for Potatoes.

I saw an extensive field of potatoes being irrigated last week—the only circumstance of the kind I have known on the coast. What it was irrigated for I cannot tell, a finer looking or more thrifty field I never saw. It gave evidence of the want of anything but water. The owners were Portuguese who probably hold the idea that the more moisture the better the potato. I must keep track of that field, and see if it proves any better than its neighbors. In my opinion it will not improve the quality of the potato, although it may be the bulk, and I should be afraid they would take a second growth. They were planted about the 1st of March. The best crop of early potatoes I have seen this spring was from Humboldt seed, planted the last of January and dug about June 1st.

G. W. T. C.

Napa Valley.

EDITORS PRESS.—Since writing you last I have passed over a portion of this beautiful valley, and have been delighted with the fine prospects which everywhere meet the eye. Wild blackberries are in such abundance in many places as to forcibly suggest the inquiry: Why have so few attempted their cultivation? For weeks, parties are searching along the unimproved lands near Napa creek for this excellent fruit. Worn, weary, and with torn garments, they return with their precious load. Except the fun of the frolic, among young and old, no one would labor so long and hard for so many berries. I cannot help thinking how much better it would be for all parties if land-holders would sell these waste lands in small tracts and on reasonable terms, to such of those as would make a thorough business of clearing out the useless willows and covering the broad and fertile acres with blackberries, gooseberries, currants, or other fruit, or field crops.

As an earnest of what may be done all along Napa creek I will refer to the

"Magnolia Farm,"

situated six or seven miles above Napa City. When I passed up this valley, last winter, I found Mr. Nash very busy planting currants, gooseberries, etc. Just now he is gathering the fruits of his labors—and such fruits! You ought to see them. You shall see them. I will bring some with me when I come next week. Gooseberries are to be seen, ripe and luscious as cherries, and certainly the largest I ever saw. You will see for yourself when they come.

Mr. Nash has planted three rows of fruits between rows of fruit trees, for the sake of a little shade. The result shows him to be right. He plants 2,300 bushes to the acre of currants or gooseberries (the fruit trees being at usual distances). His gooseberries average five or six pounds to the bush. He gathers about three pounds each from his yearling currants, and six pounds from two-year olds. From one two-year old bush he took ten pounds of gooseberries which sold for \$1.25 in your city. Mr. Nash and two boys, 11 and 13 respectively, gathered, and packed for shipment, one morning, between 6 and 12, 480 pounds of gooseberries.

He believes in thorough culture, and his present showing will convince any one of his success. He expects 50 bushels to the acre from quite a large field of wheat. His ranch is on the county road, a little

north of Oak Knoll Station, where he is pleased to see persons interested in his methods of culture and exhibit the results. He has tested eight varieties of English gooseberries. Four of them have proved a decided success—the Waver, White Smith, Queen Victoria—I have unfortunately forgotten the name of the fourth variety, which I all the more regret from the fact that Mr. Nash considers it decidedly the best of the four. JEIGH ARRH.

The gooseberries above referred to have come to hand and may be seen at this office. They are put up for preservation in alcohol mixed with three parts of water, and are decidedly the largest and finest-looking gooseberries which we have ever seen.

A Trip to Colorado—1.

[Written for the PRESS.]

I start from Omaha. I travel on the Union Pacific through a fine country which is now being rapidly settled up, owing to the building and the management of this great railroad. This corporation owns vast tracts of land which are apparently of the most fertile character, and which it has placed in the market.

Through Nebraska.

Nebraska, thanks to the Union Pacific in great measure, is growing most rapidly. The soil of the plains along the road, after waiting for centuries and gathering strength by its rest, is now producing the richest returns where the husbandman is giving his labor and is calling to his aid the fertilizing power of water. This young State, admitted into the Union in 1867, had a population in 1870 of over one hundred and twenty-three thousand. Favorably situated, with an excellent climate, fine soil, and an immense area of pasture land, we see easily how it proves so attractive to the farmer. And we re-echo the song of Whittier:

We cross the prairie, as of old
The Pilgrims crossed the sea,
To make the West, as they the East,
The Homestead of the Free.

The following extract may be worth republishing: "Regarding the soil of Nebraska, all farmers assure me that they can not be drowned out in wet seasons, nor yet dried up in years of drouth. This phenomenon is thus explained by a New York agricultural editor. 'The sub-soil is clay, slightly mixed with sand, having the singular quality of being porous without being spongy or clammy, absorbing the waters of excessive rains and holding them in reserve against a time of drouth, when the roots of vegetation, which easily penetrate to this depth, draw from it the needful moisture.' In accordance with this view I have observed that Nebraska mud is never lasting. The soil on the uplands is from twelve to eighteen inches thick, and along the streams fourteen to twenty feet."

On the Denver Pacific.

We pass through Wyoming, a territory already famous for its mineral wealth and of great promise agriculturally, as well. In 25 hours after leaving Omaha, we reach Cheyenne, the capital of Wyoming, 516 miles west of our starting point; and here we transfer our persons to the care of the Denver Pacific R. R.

This road, 106 miles long, extending from Cheyenne to Denver, was completed June 23, 1870. Its annual report shows that it earned \$304,715, at an expense of \$168,420, during 1870. It is ably managed. John Evans is President, C. W. Fisher, Supt. and Gen. Ticket and Freight Agent, and Jas. S. Potter is Road Master.

Along the line of this road are some colonies of which I shall make mention. Evans is 27 miles from Denver and Greeley about 52 miles. At Hughes, a station 18 miles from Denver, the Denver & Boulder Valley R. R. branches off to Erie, and is being continued thence to Boulder City, a place beautifully located in the foot hills and of which your paper has spoken frequently.

The Union Colony at Greeley.

Our train leaves Cheyenne at 2 p. m., and arrives at Denver at 7 o'clock. We have a pleasant ride, reaching, at 4:33, the flourishing town of Greeley. Here are the headquarters of the Union Colony. This is well known from its connection with the editor of the N. Y. Tribune. The people here are apparently making rapid progress and doing excellently well. All branches of industry have their representatives, and editors are found of no mean stamp, as evinced by the columns of the Greeley Tribune.

On April 25th, 1870, the census of Greeley footed up 6 souls, and on July 4th, the 1,200 citizens entertained themselves with reading the Declaration of Independence,

with an oration and a ball. No better farming land is reported than that here, and for 50 miles farms join one another. Already rows of trees have been set out on all the streets, and a ditch, 12 miles long, conveys water to the city from Cache la Poudre River. Over 250 houses have been built. The projector of the enterprise and president of the colony is Mr. N. C. Meeker, for many years agricultural editor of the N. Y. Tribune.

The payment of \$50 entitles any one to become a member and gives him 2 shares of stock and a resident lot valued at \$50. The payment of \$100 gives 4 shares and a \$100-lot. The payment of \$150 gives 7 shares and either water for 80 acres and the right to buy a 'railroad 80 acres' at contract price; or a resident lot valued at \$150.

Chicago-Colorado Colony.

Riding on still further we arrive at Burlington. Concerning the Chicago-Colorado Colony, here located, and the country around, I send you some extracts from the Rocky Mountain News, of May 27.

From Denver to Burlington, by the way of Valmont and Boulder City, through the valleys of Rock, Coal, South Boulder, Boulder, Left Hand, and St. Vrain creeks, there is an almost uninterrupted succession of farms and ranches. Indeed, through these valleys there is scarcely a quarter section not improved in some way. On the unimproved portions grass is from six to eight inches high, and droves of cattle, horses and sheep are luxuriating in its length and abundance. Irrigating ditches are being improved and new ones built with wonderful rapidity, and are carrying the water, month by month, higher up the hill sides and farther over the prairies, increasing the area of agricultural lands in Boulder county, this year, by thousands of acres.

But nowhere is more visible and tangible improvement seen than within the limits of the Chicago-Colorado colony. It should be noticed that wheat is looking remarkably well; oats, ditto., and kitchen gardens as promising as can be desired. The creeks are bank full, with prospect of ample supply during the season. At the colony, the crops that have been put in, even by the most inexperienced, are looking well; out of about 35,000 trees that have been transplanted to the colony nurseries, a few score have died; the remainder are taking to the soil and climate as kindly as could be desired.

Of eight-foot wide ditches, fourteen miles have been constructed; four-foot ditto., nine miles; side and lateral ditches and channels from two feet down, twelve miles. The main ditch is now completed, and the water is running the entire length of Main street, and in several other streets, shorter distances. The excavation of the lake in the northwestern portion of the town, which is intended to cover from two to four acres, is progressing rapidly. Up to the present time the field crops and gardens have flourished finely, without artificial irrigation. In addition to the ditches already mentioned, six miles of main and lateral ditches are under contract.

There have been 315 memberships issued; there are 350 adults on the ground; many of these are single young men, others heads of families, come to get a home ready. As near as can be ascertained, 150 families are already here, either occupying their own or hired houses, or boarding until they can build.

The price of membership is the same as at the outset, \$155 each, for which the colonist receives a tract of land of forty, twenty, ten or five acres, according to location; or, if preferred, three town lots. In addition, the privilege is given to purchase one business lot 25x125, and one residence lot 85x125, at prices varying from \$25 to \$50.

Platteville Colony.

Thirty-five miles from Denver is another colony at Platteville. Here they have purchased a few thousand acres of railroad land and have laid out a town. A canal for irrigating their land is to be built from the Platte River. Coal and building stone are found near the place. Most of the land purchased is west of the Platte, lying between that stream and the St. Vrain, and running down near to the junction of the two. It is level, smooth and fertile; irrigating ditches already in use, from St. Vrain and Boulder creeks, by enlargement and extension, will cover it all. These ditches will be lengthened in time for next year's planting. The intermediate government sections of land are being rapidly taken up by pre-emption and homestead, and the prospect is good for another large and productive settlement, convenient to market, and with natural resources equal to any.

W. H. M.

Wagon Making in California.

Having made a comparative estimate of all the items of expense attending the manufacture of farm wagons in California and at the East, except the items of paint, coal and labor, we come now to the consideration of these.

For the information of those who have not read our former articles we will state here that on the items of iron and hard wood and the freight on the same, in the rough and in a manufactured condition, across the country, we have heretofore shown that the California manufacturer has \$16 advantage over the Eastern manufacturer on each wagon. If in the items yet to be considered that advantage is not overcome we may claim that the California mechanic instead of laboring under a disadvantage, as has been generally supposed, has really the advantage of his Eastern competitors.

First as to paint. We can only figure on the paint used on the running gear as the boxes of imported wagons are, as heretofore stated, built and painted here. The paint on the running gear of most farm wagons consists of English venetian red and oil, and a very little lamp black for sticking. The venetian red is imported from England to New York and to San Francisco at equal cost, the freight being the same to each place. The freight from New York to Chicago is \$15 per ton, and from San Francisco to Sacramento it is \$2.50 per ton. So that upon this item the mechanics of Sacramento and other interior California towns have the advantage of the mechanics of Chicago or South Bend. If any white lead is used in the paint, our mechanics can get that as cheap as they can get it at Chicago or South Bend. The Atlantic lead being manufactured in the vicinity of New York can be laid down in San Francisco at \$10 per ton freight, while it costs \$15 to lay it down in Chicago. Our linseed oil is grown and manufactured in our own State, but the price is regulated by the ruling price of the imported article. On this article our Eastern competitors probably have a very little advantage over us. However, the amount of paint used on each wagon is so little that a slight variation in the cost of the articles composing it, makes but a very small figure in the costs of the wagon; but whatever that figure may be we have shown it to be favorable to the California manufacturer. Two pounds of venetian red mixed with one pint of oil will paint the running gear of a single wagon. This mixture, in Sacramento, can be obtained of paint and oil dealers for eight cents per pound. So that it will be seen that the cost of the material in the painting of wagons is very slight. The labor is the principle item of the expense of painting a wagon. The expense of labor we consider under the head of labor.

Coal.

We are informed by practical mechanics that it requires, on an average, just about one ton of coal to keep up the fires for ironing off six thimble-skein farm wagons. Good Cumberland coal is worth in New York, on an average, say \$10 per ton. The freight to San Francisco is \$10 per ton—making it cost the importers here, in bulk, a little over \$20 per ton. The cost to manufacturers here is, on an average, about \$24 per ton. The item of expense then for this article for six wagons, manufactured in California, may be put down at \$24, or \$4 for each wagon.

We are not positively informed as to the exact cost of the same article of coal in Chicago or South Bend, but will estimate it at a very low figure, so as to make no mistake in our favor, say \$6 per ton. This estimate will make the item of expense to the Eastern manufacturer for coal, on each wagon, only \$1, against \$4 to the California manufacturer—a difference of \$4 against

us. Deduct this from \$16, which stands in our favor as above stated, and we still have \$13 on each wagon in favor of the California manufacturer; or, in other words, he has \$13 margin over his Eastern competitors on each wagon.

Cheap Coal.

Some of our mechanics have of late been experimenting with Australian coal, and find that though it is not equal to the best quality of Cumberland coal, still a good quality of the former is superior to a poor quality of the latter.

To persons accustomed to the use of the Cumberland coal it requires some considerable persevering experiments to learn how to use the Australian, but when its peculiarities are once learned, mechanics of great experience and ability assure us that it is very little inferior in quality, and, considering the price much more economical. The Australian coal can be laid down in San Francisco at \$10 per ton, and can consequently be afforded to our manufacturers at about one-half the cost of the Cumberland or Eastern coal. Coal mines are constantly being discovered and opened on the Pacific Coast, and we feel certain that within a very few years coal of the best quality will be afforded here as cheap as in any of the Atlantic manufacturing centers. This being the only item now in the way of equal facilities to our manufacturers, we think they should entertain no fears of final success in the competition for the trade of the Pacific which is now going on between them and their brethren east of the Rocky Mountains.

Labor.

One of the greatest drawbacks to the manufacturing industries of the Pacific Coast, and especially of California, has heretofore been the high price demanded for labor. The time was when a man with pick, shovel and rocker could go into the mines, and by industry dig out from \$8 to \$16 a day, and average this the year round. Under such a state of things the manufactures could not of course be prosperous here, and importation was then all the rule. Repairing had to be done here, and for this work mechanics commanded prices in proportion to the value of labor devoted to mining pursuits. All this is now changed, and although it has been a hard and disagreeable road to travel, labor has been compelled to go down hill until now it is glad to find employment on terms as low as it commands at many places in the Eastern States. This is a great change from former flush times in California; but the sooner this change is looked square in the face and acknowledged and acted on as a matter of fact, the better it will be for all parties concerned, for the employed as well as the employer. The products of labor are worth no more here to-day than in Illinois or New York. The cost of living is no more, if as much. Then why should labor demand a higher price? Such demand results only to its disadvantage and to the disadvantage of the whole country.

We have before us a copy of the New York *Herald*, of March 19th, 1871, in which is given a list of prices paid for all kinds of labor in that city and vicinity, as reported by the free labor bureau of New York City. We quote the prices paid some of the mechanics, and ask a comparison with those paid to similar employments in this State.

| | |
|---------------------------|------------------|
| Blacksmiths, per day..... | \$2.50 to \$3.00 |
| Boiler makers "..... | 4.00 |
| Carpenters "..... | 3.50 |
| Cabinet makers "..... | 3.50 |
| Coopers "..... | 3.00 |
| Coach makers "..... | 3.00 to 5.00 |
| Engineers, per month..... | 50.00 to 100.00 |
| Machinists, per day..... | 3.00 to 5.00 |
| Painters "..... | 3.50 to 5.00 |
| Wood carvers "..... | 5.00 |
| Wheelwrights "..... | 2.50 |

The above is sufficient to show that the prices paid for mechanical labor in New York are fully as high, and if any difference, a little higher than are paid for the same kinds of labor in California.

We have now compared all the items of expense actually and directly involved in the manufacture of wagons in California and the Western States of the Atlantic slope, and find a margin still in favor of the California manufacturer to the extent of \$13 on each farm wagon. With these facts in our favor we are yet confronted with the stubborn and damaging fact that one half of the farm wagons sold in the State within the past year have been imported from the East. In our next on this subject we will endeavor to show where the trouble lies.

SHEEP HUSBANDRY.

Superior French Merinos.

Mr. R. Blacow furnishes us the following facts with regard to his flock at Centerville, in Alameda county. The original of his flock was a selection from the Ramboula flock of France, and was brought to this State by J. D. Patterson, who expressed the opinion that they have largely improved in his (Mr. Blacow's) hands. This spring his ewes averaged 18 pounds of wool—one fleece weighing 27½ pounds. Mr. B. sends us the photograph of one of his rams, which is three years old, and weighs 284 pounds. His past years fleece weighed 35 pounds. He has also a yearling which, with his fleece on weighed 254 pounds, and a December lamb which weighs 125 pounds and a ewe, without fleece, which weighs 189 pounds, sheared this spring.

Mr. B. has also sent us a photograph of the French merino ram, "Crystal Palace," which is the sire of his ram noticed above,



FRENCH MERINO RAM, CRYSTAL PALACE.

and one of the most celebrated animals of this breed ever brought to notice. He attracted much attention at the time of his exhibition at the Crystal Palace, London, whence his name. The portrait which we give herewith, is a faithful representation of the animal, engraved at this office from a photograph.

This, one of the finest flocks of merino sheep in the State, selections from which will no doubt make a most creditable exhibition at the coming State Fair, and one which is well worth the attention of sheep growers.

Practical Experience in Sheep Raising.

EDITORS PRESS:—Much has been said of late about Cotswold sheep, and with your permission, I will give your readers something of my experience in raising them.

I commenced with graded South Downs and Merinos, and crossed with a full-blooded imported Cotswold buck. I find that the half-breed lambs shears double the amount of better wool, in a year's clip, than either South Down or Merino; and that the wool brings a better price by from three to five cents per pound, while in size and keeping quality, they far excel the original stock.

I kept twenty-one head on the same amount of land this year, that I have formerly kept one cow on, the same length of time, and to-day those half breeds will weigh with their fleece on, 200 pounds, and will shear from ten to twelve pounds of very nice wool.

I have another imported buck, that between the 20th of February and the 1st of April, gained 50 pounds on grass, and every one knows there was very little grass on the 20th of February last. This one sheared, at ten months, 15 pounds. I have lambs from him crossed with South Down and Merinos, that weighed, at three months, 90 pounds; these same lambs will shear from three and one-half to four pounds. Ever since the first of June I have been keeping this buck tied up, starving him, so that he will be fit for service; but it is the hardest work I ever undertook, to get the flesh off; I had rather put it on.

I think it is as easy to raise a sheep of three-quarters Cotswold to weigh 200 pounds at two years old, as it is to raise a graded Merino to weigh 100 at the same age; and in the place of getting from four and a half to six pounds of Merino wool in the year, we can get from ten to fifteen pounds of good glossy wool from a three quarter Cotswold; and what is better still, this can be done on the same amount of land that you will need to raise the same number of Merino sheep.

So far as their eating more grass is concerned, I will admit that is the case with the ewes, but the wethers will not eat a particle more than the Merino; and I will tell you

Why It is So.

When you turn out a Cotswold herd, they will commence with the first thing they come to; they are always satisfied with what is in sight, while the Merinos are always looking for something they have not got, until they have trodden down more feed than would keep the same number of Cotswold.

Again, if you are obliged to feed the Cotswold sheep with cut hay or straw before they are starved, but the Merinos must be starved before they will eat anything which does not suit them.

Other Considerations.

Some object to the Cotswolds on account of their weight. I think that is no hindrance; the three-quarter bloods certainly seem to be just as active as any other sheep. They climb as high; they feed as well and keep fat longer on the same range; and what more can be asked for. Then why raise the little common Merino, with an increase of seventy-five per cent., and an inferior quantity of wool, with a ninety pound carcass, when you can raise a sheep that will increase a hundred and fifty per cent., double on your wool, and at selling time realize \$5 in the place of \$3? The latter result can be attained with the same ease, and with the same expense as the former. This makes a showing of double the profit in the first cross.

Now all that it is necessary for sheepmen is to sell enough of their common stock to buy enough of the Cotswold to serve the balance, and the first year you will double your money on your increase; and that alone will pay the expense of buying your improved stock. Then why stick to the old system, that because "my father always kept this kind of stock, why should I change mine?"

We certainly live in an age of progress. The things of yesterday are not the things of to-day. If we stand still, we shall soon find ourselves like the Chinese—years and years behind the times.

I have just weighed one of my full-blooded Cotswold lambs, four weeks old. It weighs 40 pounds, and is covered with wool two inches long, of as fine a luster as the Angora goat. If any one questions my statement, let him call and see me, at Pell orchard, Stony Point, Sonoma county, where I shall be happy to show him the improvements I have made. I have the evidence here to substantiate what I have said in regard to sheep.

Respectfully yours,

A. CALDWELL.

OREGON WOOL is quoted in this market at 37½¢ @ 40¢, for fair to choice clear; while the same grades of California are quoted at 30¢ @ 35¢. Two lots of wool are reported from San Juan Island which have been entered for shipment.

A FARMER'S EXPERIENCE.—That the success of farming is in experience.

That to ask a man's advice is not stooping, but often of much benefit.

That to keep a place for everything, and everything in its place, saves many a step and is pretty sure to lead to good tools, and to keeping them in good order.

That kindness to stock is like good shelter, is a saving of fodder.

That to fight weeds, is to favor grain, and to do justice to your neighbors.

That in making home agreeable, you keep your boys out of the city.

That it is a good thing to keep an eye out on experiments, and note all, both good and bad.

That it is a good thing to grow into farming—not jump into it.

That it is a good rule to sell your grain when it is ready.

That the first mellow soil in the spring is your mellowest, and should be first put in.

That all farming is summed up in the manure heap on the farm.—*Prairie Farmer.*

AGRICULTURAL NOTES.

CALIFORNIA.

GRAIN FROM THE UPPER SACRAMENTO.—The first grain shipment of the present crop from the upper Sacramento was received at Sacramento City, on Friday of last week, by the Red Bluff steamers. The consignment embraced 50 tons, and was from the ranch of F. E. Corcoran, Tehama county. Large quantities will soon be coming forward.

Gerke's ranch in the same county will furnish some 220,000 bushels. This ranch will average 25 bushels to the acre.

The hay crop in Napa is all gathered, and though a light one, there is enough and to spare. The quality is good. The barley crop is now being gathered and promises to be equal to any crop of that grain for several years. The wheat also is said to be of a superior quality. The *Register* estimates that the yield will reach 1,000,000 bushels.

CROPS IN SONORA COUNTY.—Mr. Thos. R. Stoddart writes from Sonora, under date of July 1st, as follows:

We are now in the midst of our harvest, and as I prophesied, it is turning out better than the croakers would have had us believe it would. The grain and hay crop are above average slightly—at any rate not below it in this neighborhood. Grain crops, however, here will hardly ever pay, owing to the distance from market. Hay pays better. Fruit is our main crop, and this year will be very abundant, especially grapes, and consequently wine. Figs, however, will be short the first crop, other fruits will be more abundant. The balance of our correspondent's letter will appear next week.

The *Calistoga Tribune* says the present wheat crop in Napa Valley is equal to any past crop in area, stands thicker on the ground, has larger and better filled heads, with more plump kernels. The best crops are those sown upon fallowed lands.

SINGULAR TILLAGE.—The *Tribune* notices the singular mode of tillage in one "remarkably fine field of 40 acres."—"It was sown on the first day of November, after corn. On the 26th of March it stood near three feet high and had commenced to "lodge." Half of the field was then mowed down to about ten inches and half, fed on for five days by twenty-five hundred sheep until the crop was thought by some to be ruined. The field will yield thirty bushels to the acre, and in the parts mowed and fed there is no perceptible difference. A still heavier piece of wheat (promising forty bushels to the acre) may be seen on this farm—the result of drainage and good tillage.

One of the best crops of 250 acres in the entire valley, says the same paper, may be seen on the farm of Thomas Rutherford—near Rutherford's Station. It was worked on shares by Mr. Eddington. We are informed that he sold last week his two-third interest in this crop to Messrs. Linn & Preston for \$6,000 U. S. coin. The cost of putting in the crop was about five dollars per acre, which gives Eddington a profit of forty-five hundred dollars for two months labor.

CROPS IN NEVADA.—The *Grass Valley Union* says the harvest is over in the lower part of the county, and that the yield of both hay and grain is something over the average quantity, and superior quality. The *Union* adds that Nevada farmers are near to the best wheat market in the State—the mines, and yet the mountain farming lands are almost neglected.

THE NORTH BUTTES.—The *Marysville Appeal* says the harvest is progressing finely at the North Buttes, and that the wheat will average 10 bushels and the barley 15 bushels to the acre. The grain though light to the acre, is nevertheless of a very superior quality. The farmers decline to sell at present prices, looking for something better. We think they will miss it.

AN ECCENTRIC HEN.—The *Appeal* tells of an eccentric hen in Nevada county which made her nest in a field, where a quail came also and laid her eggs in the same nest. Biddy's owner took her and her eggs to the house as a more fit place to bring out the brood, leaving the quail eggs in the nest. Biddy resented the interference with her pleasure, returned to the field, killed the quail which had commenced setting and did not relinquish the nest until she brought out a brood of quails, which she is now rearing. We are curious to know whether the quails will become domesticated or not—we think not.

CHILI CLOVER IN YOLO.—The *Yolo Mail* says that Mr. Blowers has just finished the

first cutting of Chili clover, which yields over seven tons of hay to the acre. He expects to cut hay from that same field twice more, and thinks the total for the season will amount to eighteen or twenty tons.

VINEYARD PROSPECTS IN SONOMA.—The *Vallejo Chronicle* of the 1st inst. learns from St. Helena that the grapes have set abundantly and well, and that the prospect is that they will realize a most luxuriant crop. Every other description of fruit is equally promising. The season could not have been more formable to the fruit crop, generally, throughout the State.

HANDSOME GRAIN.—The *Oakland News* has seen a couple of stalks of wheat from Kimbal Island, near Antioch, on which there were 247 heads. The grain was well developed and looked splendidly. That beats the specimen we noticed last week. It should be exhibited at the State Fair.

OATS ON KIMBAL ISLAND.—A sample of oats from Kimbal Island was exhibited in Oakland a few days since which measured 7½ feet in length.

KIMBAL ISLAND, which yields such wonderful productions contains according to the *Antioch Ledger* about seventy acres, one-half of which has been reclaimed by a substantial levee. About fifteen acres are under a high state of cultivation. The fruit trees are in a bearing condition, and one may find strawberries, blackberries, raspberries, currants, etc., in abundance. Along the levee there are innumerable vines laden with fine clusters of grapes. This island, which formerly produced nothing but tules and willows, has been converted into one of the loveliest spots that can be found on the San Joaquin. Truly the wilderness may be "made to blossom like the rose."

GRAIN FROM SHERMAN ISLAND.—A bunch of oats from Sherman Island has been exhibited in Vallejo, many of the stems of which, according to the *Chronicle*, are half an inch in diameter and from six to seven feet in length. The Norway oats, have heads from sixteen to twenty-one inches in length, each very large, plump and solid. There are hundreds of acres of grain equal in luxuriance, and farmers are now cutting it, preparatory to putting in another crop.

On Twitchell's island in one field, 1,700 acres of very fine wheat may be seen, which will yield from fifty to sixty bushels to the acre. As fast as farmers on these islands take off one crop, they put in another, and on a piece of ground which had just been mowed for hay, a crop of barley is put in.

TALL RYE.—A sample of rye was exhibited in this city last week, grown by a German farmer near Searsville, in San Mateo county, the stalks of which measured eight feet three inches in length, and the heads are at least six inches long. The field contains about fifteen acres, consisting of bottom land. The grain has, of course, not suffered at all from drouth.

PEA NUTS.—Twenty tons of peanuts, raised by a Chinaman on some of the sandy bars in the upper Sacramento river, were received at Sacramento last week.

BREEDING FROGS.—Pete Lozier, according to the *Alta*, who hangs out at the Seventeen-mile House, has taken to breeding frogs, and already has a family of several hundred thousand. He keeps them in the vicinity of the house; and so vast are their numbers that they can be fished out by the handful. So far Pete has only used them for his guests; but we understand he intends importing them to this city, when our French population will have a chance to indulge the national taste to an unlimited extent.

LAND TROUBLES IN LIVERMORE VALLEY. This valley, according to the *Oakland Transcript*, is laboring under an excitement consequent upon the recent decision confirming the Livermore grant to two leagues instead of eleven as originally claimed by the parties in interest, which latter decision will throw into the market 40,000 acres of Government land, and very many settlers are taking advantage of this opportunity to select 160 acres (quarter section) for a homestead. In several sections they have gone into occupation of land already improved, and on which there is growing crops of grain, and are refusing to allow the claimants to harvest their crops. It is hoped the matter will be amicably arranged, and that all parties will have their just and equitable rights.

THE HARVEST IN CONTRA COSTA.—The *Gazette* says the farmers in that vicinity are now busy harvesting, with various results. Some fields of summer-fallow are turning out very well. A sample lot of wheat from a field of 250 acres, belonging to James T. Walker is as plump and full as need be, which, were it not from mixture of

oats and the depredations of squirrels would yield 16 sacks per acre. Some fields in the vicinity of Walnut creek are said to be unexcelled, although in many localities the crops are an entire failure. Present estimates place the yield at less than one-fourth of a crop.

A BOUQUET OF APRICOTS.—The *Sacramento Union* has received an apricot limb a little over three feet long, from the ranch of C. S. Lowell near the Lake House in Sacramento county, which contains 250 full grown apricots of excellent flavor. This is the only State in the Union where such extraordinary exhibition can be made.

NORWAY OATS, ETC.—On the grounds of the Pioneer Silk Manufacturing Company, at San José mission, says the *Alta*, there are now growing some magnificent Norway oats which will yield one hundred bushels to the acre, and are now five feet high. On the same grounds are some eight hundred trees of the *morus niger* variety, mostly three or four years old and raised from cuttings. Twenty-five of the trees are nine years old. The older trees will feed worms enough to yield eight or ten pounds of cocoons each.

A LAKE TO BE DRAINED.—The *Gilroy Advocate* says that Henry Miller, "the Champion Stock-raiser of California," intends draining Soap Lake into the Pajaro river, thus opening up to agricultural and general utility some 1,200 acres of first-class bottom land.

POISONOUS VEGETABLE.—Four persons came near being poisoned one day last week, in Santa Cruz, by eating greens which they had purchased. Dr. Anderson on examining them found that they were what is known as Jamestown weed (*stramonium*), or thorn-apple, which may be found growing along our river bottoms, in damp places. He considered it a miracle that the result in the case did not prove fatal to the whole party.

CROPS IN SANTA CRUZ.—The *Times* thinks Santa Cruz stands ahead, this season, of all the counties in the State, so far as the crops are concerned. While in Santa Clara county the effects of the drouth are only too perceptible; as we near Gilroy, the crops give indications of a more favorable character, and, as one farmer remarked to us, there is a chance for half a crop. At San Juan, Monterey county, the same characteristics may be observed as in Santa Clara, and only as you enter the lovely Pajaro valley are you greeted with anything bearing the semblance of good crops. Indeed, we are fortunate, and the farmers may well look cheerful and gloat with anticipation of bountiful harvests and lively times.

SANTA CLARA—LOW WATER.—The water in Los Gatos creek and in the Artesian wells throughout this county is getting very low. The Water Company has issued stringent orders limiting to four hours per day the consumption of water for sprinkling or irrigation, and prohibiting altogether the use of water for fountains or for sprinkling the streets.

MONTEREY COUNTY.—The *Castroville Argus* of July 1st says:—The harvesters are fairly at work in the fields surrounding our town, and the whirr and whistles of thrashing machines are again in the air of the valley.

RECLAMATION.—The work of reclaiming the tule land is making rapid advance. The *Alta* of Monday summarises the work now going on as follows:—The reclamation on Brannan Island will be completed this season. In a few weeks the dam across the mouth of Jackson Slough will cut off the chief channel by which the tides reach the interior of the island. The work on the levee is soon to be commenced on Grand Island, containing 17,820 acres, between Old river and Steamboat Slough. The needful security is to be given by an embankment 27 feet wide at the base and 10 or 12 feet high. The dirt to make the levee is to be taken from the outside not from the inside, as has been customary heretofore. A strip of several thousand acres of tule extending about four miles westward from Rio Vista, on the north side of the Sacramento river, is to be reclaimed this season. The work on Sand Mound district, at the northeastern base of Mt. Diablo, is in progress. A contract for \$100,000 or more has been made for building an embankment round the large tule district between the Sacramento and Feather rivers, at their junction. It is likely that the embankment on Twitchell Island will be enlarged. A levee 23 miles long and 3 feet high on Bouldin Island, between the San Joaquin river and the South Fork of the Mokelumne, has been completed at a cost of \$528 per mile.

OREGON.

LANE COUNTY.—From the *Engene City* papers we learn that wool is selling there for thirty-five and a half cents and has been in great demand even at that figure.

FARM LANDS.—A farm of four hundred acres on Coast Fork sold lately for \$3,000; one hundred and sixty acres at Springfield for \$4,500; two lots in Eugene City for \$3,500; and one-half lot for \$1,000.

HORACE GREELEY TO BE INVITED.—Many citizens of Portland have published a letter requesting the managers of the State Agricultural Society to call a meeting at an early day, for the purpose of taking into consideration the propriety of extending an invitation to Horace Greeley to deliver the Annual Address at their next State Fair.

WASHINGTON TERRITORY.—The citizens of this territory, says the *Willamette Farmer* are aiming not to be behind the times in the fruit business. Mr. S. W. Brown, of Vancouver, has a nursery that would be a credit to any country. His ground is in the most perfect order. He sold nearly twenty-five hundred dollars worth of trees last year, and now has growing about eighty thousand grafts of the very best varieties. Many orchards are being set out in the Walla Walla Valley, which is destined to be one of the finest fruit growing regions on this coast.

The *Vancouver Register* says the damage to the farmers in Clark county from high water will reach \$100,000. Many have lost their whole crops.

We clip the following items from the *Oregonian* of July 1st:

FINE STOCK.—Mr. A. J. Myers, of Santa Clara, California, arrived by the John L. Stephens, with three thorough-bred, and one half-bred, Devonshire bulls, three of them only one or two years old. They are very fine animals, imported to Dr. Shapless, Eugene City, who is going into the raising of blooded cattle. Mr. Myers starts with them this morning for Eugene by the O. and C. Railroad.

NOTES FROM THE COUNTRY.—We hear from all directions that the country is enjoying a fine growing season. The late rains have been very advantageous to late sowed grain, and a fine crop is anticipated. The Columbia bottom lands have suffered greatly from the flood, and the greater part of the vegetable crop has been destroyed. A large part of the supplies of this city are unusually received from that part of the country, and the crop being thus a failure, we shall have to draw the Upper Willamette Valley for potatoes, onions, turnips, cabbages, etc.,—articles not generally brought in in large quantities from that direction. Vegetables will bear a good price next fall, and the interior farmers would do well to take care of their crops and promote the yield by all available means. This city is now buying potatoes and many kinds of vegetables from California.

GOOSE LAKE.—The *Jacksonville Sentinel* says that Dr. E. H. Greenman has returned from a trip to Goose Lake valley. He reports that the valley is rapidly filling up with settlers, also that droves of stock, cattle and sheep are constantly arriving. The country is healthy and peaceable, giving but little employment to doctors or lawyers.

The *Jacksonville Times* says: Settlers are pouring into Klamath Lake valley. They come from Wallamet chiefly, and are settling on Lost river and Alkali lake.

Large quantities of Chesapeake Bay oysters have been taken to Puget Sound for planting. The Indians on the Sound are also planting native oysters.

MISCELLANEOUS.

THE CRANBERRY CROP AT THE EAST.—The following statistics give the amount of cranberries in some of the Eastern States: Maine produced 1,000 barrels; Massachusetts, 8,000; Connecticut, 2,000; New Jersey, 40,000—principally from cultivated fields. At nineteen stations on the St. Paul and Milwaukee railroad 14,585 barrels were freighted during the berry season of the same year. A ten-acre lot in New Jersey produced in one year 900 bushels—value \$6,000. The owner was offered and refused \$2,000 per acre for his lot.

THE RAIN FALL throughout the Eastern States has been very small the past year; the gauge at Cincinnati for the year ending May 30th shows but 29¼ inches—over nine inches less than the usual average.

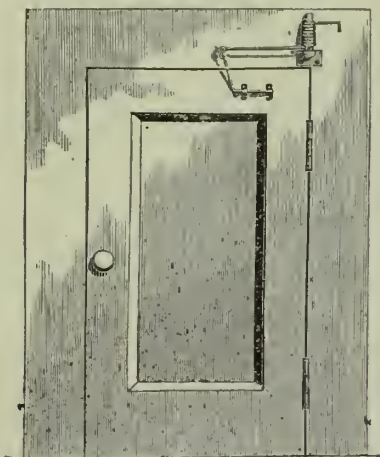
The potato bug is committing great ravages in Wyoming Territory. The *Tribune* published at Cheyenne, speaks of one man who has a little patch of less than an acre upon which he estimates he has slaughtered about five bushels of full grown bugs—to say nothing of their infantile progeny which he has destroyed.

A New Door and Gate Spring.

In our issue two weeks ago we made brief mention of a new door and gate spring, recently invented in the East, and now being introduced here by Mr. Geo. B. Davis, of Alameda, promising at an early day to give a fuller and an illustrated description of the same. This promise is now fulfilled, and the mode of constructing and operating the spring may be readily learned by examining the annexed engravings.

The object of this invention is to provide a more serviceable and reliable spring than has heretofore been presented for the purposes named. Of the many devices of the kind hitherto in use there are none to which grave objections may not be made. One overloads the door with iron, presenting an unsightly appearance, another crowds the door too hard when open, and loses its force before it is closed, while others disturb us with creaking or rattling noises, etc., etc. The inventor of the spring herewith presented, claims to have essentially obviated all these objections, and to have brought out a device which, for neatness and durability, cannot fail to commend itself to the public. It has a force nearly equal at all points, and while it allows the door to swing back against

Fig. A.



NORTON'S DOOR SPRING.

the wall, it will close it from any point, tightly, quietly and surely.

This spring may be seen in operation at the office of the agent, G. W. Blake, 305 Montgomery street. It may be made ornamental as well as useful, and may be plated or painted to suit the taste of the individual.

We understand that it has been submitted to most of the leading architects of this city who are almost or quite unanimous in their expressions of approval of it.

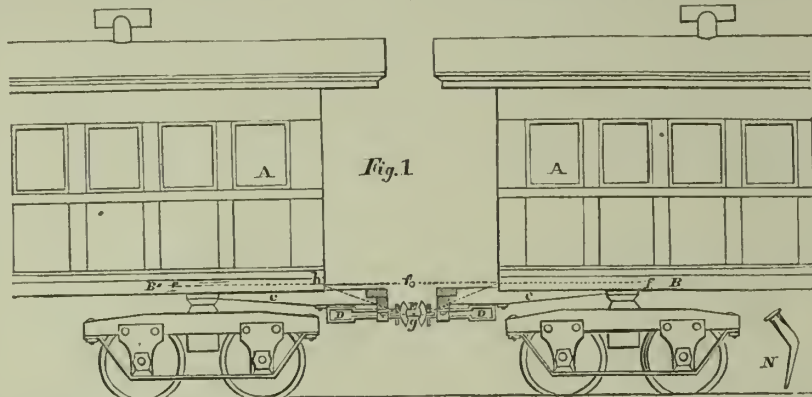
Fig. A. gives a general idea of the construction of the spring and the mode of its application to a door. The spring consists of a coil of spring-brass wire, working loosely upon a metal standard and secured to the door casing by screws. One end of the spring, which will be seen projecting from the upper right hand side of the coil, rests firmly against the casing, while the opposite or lever end is hooked to an adjustable spring, secured to the door. Its working will be readily understood without further explanation.

Fig. B. represents the gate spring as applied to a gate. This is the same as the door spring, only double, being made with matched pairs of springs, right and left, and placed upon a double support, secured to the gate post, as shown. The lever arms rest on a swinging brace attached to the gate. These double springs are also adapted to heavy doors.

Mr. Davis owns the rights for all the States and Territories on the Pacific Coast. In anticipation of a large demand for the article, as is the case at the East, Mr. D. is making arrangements to have them manufactured in this city, and under his own especial supervision.

Telescoping.

One class of railroad accidents which has the most fearful effect on the mind, is telescoping,—the running of cars into each other like the joints of a telescope. Any sudden checking of a passenger train in motion may, and too often does, under the old system of platforms, couplers and buffers, break off the platforms of the cars and permit the ends of the car bodies to come in contact; and if the speed of the moving train is equal to ten or twelve miles per hour, the ends of the bodies of



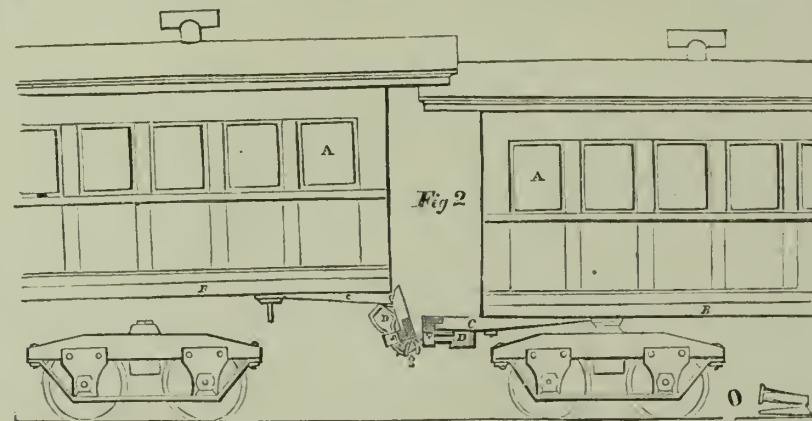
such cars are liable to be broken, and the cars to pass into and through each other. This is "telescoping" the cars. The terrible accident of this kind which happened in Alameda some two years ago, is still so fresh in the minds of most of our readers, that any device which promises to obviate

broken platform, in a collision. The result is shown in Fig. 2. One car is raised up, by the broken platform, and made to strike the opposite car above its sills, where nothing but light studding and paneling is encountered in its course into and through the same.

Fig. 3 shows the proper method of construction of car platforms and the application of the coupling and buffing apparatus which accords with mechanical laws. Here A A are the car bodies; B B, the sills of the cars; C C, the platform sills; D D, a method of coupling without link or pin or substitute therefor, entirely automatic in its operation, and capable of being attached to any other kind; E, the buffer, located

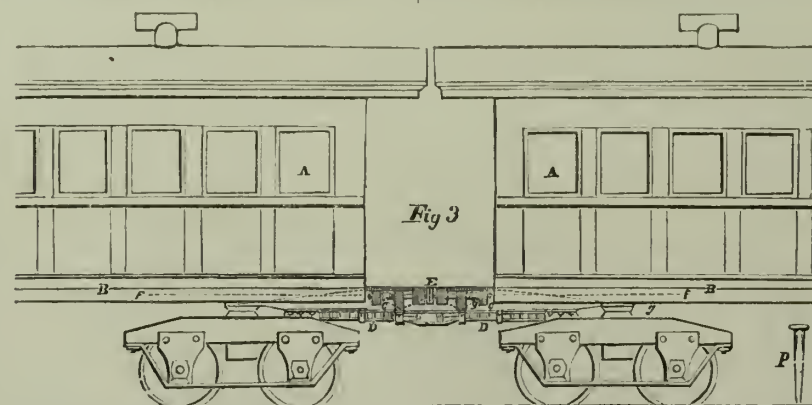
by taking a bent nail and bending it, as at N, Fig. 1, to correspond with the line, f h g, Fig. 1; this crooked nail cannot be driven into a soft pine board; a light of buffing, which ensures that a platform cannot be broken off by a collision, as is possible with the previous construction.

The two methods may be plainly illus-



such danger will be read with interest.

The Miller Trussed Platforms, Compression Buffers and Automatic Couplers, it is claimed, will so effectually prevent any liability to this class, as well as other classes of accidents, and which are certainly in the highest repute among railroad men.



The following cuts serve to show the principle of telescoping, how it is caused by faulty construction, and how it is prevented by correct construction. They likewise show the principle of the Miller platform.

Fig. 1 shows how telescoping can occur with the old construction. A A, are the car bodies; B B, the sills of the cars; C C, the platform sills; D D, the drawheads, which serve also as buffers; E, the coupling link; f f f, the center line of the sills of the cars; g, the point of contact; and h g, the line of depression from the center line, f f f, to the point of contact, g.

These platforms are located below the sills of the cars, and the buffers far below the platforms, bringing the point of contact at g, instead of f (directly above g). This crook in the line, f h g, will cause a

in the center-line, f f; g g, the course of the truss rods that hold the platform in the line of the sills of the cars.

This shows the straight line method blow with a hammer will break it, as shown at O, Fig. 2; while a straight nail—as P, Fig. 3—may be driven with hard blows into the hardest kind of wood.

This is the way in which Col. Miller shows the superior construction of his inventions. Letters to him may be addressed to E. Miller 231 Broadway, New York City.

CURIOUS INSTINCT OF A DOG.—In a small town in Kentucky there is a Newfoundland dog who is so pacific by nature that he cannot bear to witness an outburst of passion. All the turkeys, ducks, geese and chickens regard him with affection, since he will not permit any of them to quarrel one with another. He keeps a watchful eye upon all, and instantly puts down every pugnacious disturber of the barnyard peace. The work keeps him busy; still he does not tire.

He submits to be seen through a microscope, who suffers himself to be caught in a fit of passion.

To the Apprentices of California.

The Board of Managers of the Eighth Industrial Exhibition, desiring to encourage and advance the interests of the Mechanical Apprentices, will, at the incoming Exhibition, award special prizes for the best specimens of drawing, designs, models, or mechanical workmanship, and space will be allotted to this department. The class and value of premiums, to be awarded on the merit of the exhibit, by a Committee appointed by the Board of Managers.

Each exhibit must have attached the name age and residence of exhibitor; and an application to exhibit in this Department must be accompanied with a voucher from the employer, that the exhibit is the sole work of the exhibitor.

Information will be furnished and applications for space may be made to J. H. Gilmore, Special Agent Eighth Industrial Exhibition at the Mechanics Institute, 27 Post street, San Francisco.

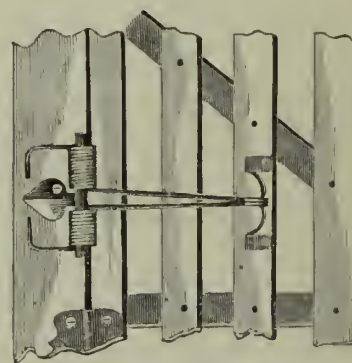
A Remarkable Plant from Nevada.

At a late meeting of the California Academy of Sciences, Dr. Blake presented some specimens of *Phycodromaeceae* of *Algae* which, in an excursion into Nevada, he had found

Growing in a Hot Spring

In the Pennebla valley. The temperature of the spring he believed to be about 140° to 150°, but having no thermometer, this could not be ascertained with accuracy. These *Algae* consist of delicate hair-like

Fig. B.



NORTON'S GATE SPRING.

cells, and probably constitute the smallest vegetable known. With a magnifying power of 700 diameters they still appear no larger than a hair, and approximately measured about 1-70,000th of an inch. They belong probably to the Spiriline and Oscillariae.

The most marked peculiarity of these plants is the extraordinary places in which they grow. They are found not only in hot saline springs, but in chemical solutions of the most poisonous substances, as arsenical solutions, which would be fatal to every other form of vegetable and animal life. They are the lowest forms of organized beings, developing no spores, but multiplying by simple division. Their growth in hot saline solutions renders it probable that they were the

Earliest Form of Vegetable Life

On the globe, as they would grow in the older seas where the temperature of the water must have been far higher than it is at present. Many diatoms were found associated with these algae, the forms of which were considered to be more closely related to those found in infusorial earth than to the diatoms of our colder waters. This point, however, was reserved for further investigation.

RABBITS FOR FOOD.—They have begun in Canada to cultivate rabbits as an article of food, and in European countries, hundreds of miles of coast lands are used as rabbit warrens, and their product furnishes a cheap and nutritious food for millions, while the furs have considerable value in trade.

ANTIOCH RAILROAD.—The Antioch Ledger, of June 24th, says that eastern capitalists are engaged in an enterprise which promises the building of the Antioch and Visalia R. R.

POPULAR LECTURES.

Modern Historical Research.

[Prof. SWINTON before the MECHANIC ARTS COLLEGE Mechanics' Institute Hall, S. F. Seventh Series, reported expressly for the PRESS.]

LECT. III. July 1.—In this, the last regular lecture of the course, Prof. Swinton gave a very interesting *resumé* of the methods and results of modern historical research. He traced rapidly the steps by which history has grown to be a science, and advance has been made from the national egotism and narrowness of the ancient Greek and Hebrew, to the broad ground of prevalence of general laws, which characterizes the modern historian. And the results of historical research, properly conducted, he claimed, were destined to influence morals, religion, and the life of society.

Two Great Nations Discovered.

In his lecture, the Professor dwelt at length on the two great discoveries made about the beginning of this century—the disinterment of two great nations, of Egypt and of India, two or three thousand years older than the Greek. He showed how the discovery of the Rosetta stone, in 1799, during the French occupation of Egypt, gave the key-note to the whole reconstruction of Egyptian civilization, whereby the modern world learned that, 5,000 years ago, there lived in the valley of the Nile a race of a stable political organization, a high state of civilization, with its own architecture and copious literature.

So too, the introduction among scholars of a knowledge of Sanscrit, the ancient religious speech of India, has taught of a race older by a thousand years than the oldest known monuments of the classics, and has given rise to the science of comparative philology. By this, moreover, is explained the resemblance of the classics to one another, and of the Teutonic, Slavic and Celtic languages; and it is shown how nations have migrated from Western Asia in early times—part eastwards to India, and part westwards to Europe.

While we have thus in modern times learned of the existence and history of nations thousands of years earlier than was before described in history, some geological discoveries, the finding of flint instruments in the French drift, have thrown the existence of man back over a space of time of which we have no definite measure, and which is counted not by years, but by thousands of years.

The Professor referred to the various auxiliaries to the study of history, as comparative philology, ethnology, physical geography, statistics, myths, ballads, traditions, etc.

The Most Important Fact.

That fact which makes history a philosophy is the discovery of *progress* made continually from the earliest times. This is a modern doctrine, not to be found in Aristotle or his followers. The old idea was that order and progress are incompatible; the new idea is that they are inseparable.

The Professor gave several examples of the law of progress in language, morals, etc., but which has its most perfect illustration in science.

In conclusion, he pointed out the progress made in historical narration—how, in place of a mere pictorial relation, it has become a science showing the connection and relation of facts; how, in place of a description of a single person or nation, it treats of the whole of mankind.

Succeeding Exercises.

At the request of very many persons, Prof. Swinton will repeat his lecture on War Correspondents next Saturday, (July 8), and on the following Saturday (July 15), the concluding exercises of the course will be held, when addresses will be made by President Durant, Rev. Horatio Stebbins and others.

Cows and Sheep vs. Coal Oil.

EDITORS PRESS:—The claim of superiority of climate on the part of any one county naturally causes the institution of an "odorous" comparison on the part of the circumjacent counties. I say "odorous" advisedly; sheep and coal oil, the sources of the "peculiar ambrosial influences" that pervade the air of San Luis and Santa

Barbara counties might have a more forcible adjective applied to them. It must require a highly educated and susceptible nose—well, say the nose of a coyote—to discover the ambrosial part in the abominable stench of a sheep corral. However, our neighbors to the south have rested their claims on sheep and petroleum, and I now propose to enumerate the claims of Monterey to rank as one of the healthiest cities on the coast.

First—Let me suggest to your correspondent "Medico" that an overdose of steel must have induced the overflowing ironical vein that runs through his letter. I sincerely commiserate him on the unfavorable (?) locality in which he has his professional connection, and would recommend to his notice the plan, extant in some Asiatic State, of having his patients pay him so long as they keep free from sickness; although the counterpart, viz., the stripes bestowed on the physician every day his client suffers, might not equally meet his views. And if, even on this plan, he cannot find sufficient occupation, let him "doctor" to his heart's content the numerous coyotes that ever love to hover round his "white merino" sheep.

Of course, being much nearer to that dangerous breeder, incubator and disseminator of noxious germs, San Francisco, our climate would be supposed to be that much more unhealthy; so it will be necessary to find some more powerful health-giving influence than sheep or coal oil to counteract or neutralize their baneful tendencies. I think I can venture an "hypothesis equally startling" with "Medico's." I concede to him that San Luis is pre-eminently a "sheep" county, and Monterey must be equally allowed to be a "cow" county. By the Darwinian theory of selection or evolution, or whatever it is called, a cow is only a modified sheep; and of course, if wool absorbs noxious germs, modified wool—cows hair—must be a better absorbent, so that in this respect our climate must be superior to that of San Luis.

If this position should be found untenable (and possibly Prof. Tyndall might demur to having "respirators" made of cows' hair in place of cotton wool) I take my stand on the well known assertion, proverbial even ere the time of our grandmothers, that the breath of a cow is healthy, not to mention *sweet*. Now no one can maintain, as I have before said, that there is anything sweet in the odor of sheep; so I think we may fairly put San Luis out of the question.

Now for Santa Barbara and Petroleum. Not belonging to the faculty of "Medicos," I can't discuss the medicinal qualities of the oil, but I am acquainted with the "ambrosial" nature of its odor, and I think that I can prove Monterey equal to the situation. If your readers will accompany me for a stroll one-half mile from Monterey we shall arrive at a low dark shed near which are sundry greasy looking barrels; a little farther on we perceive several men at work round certain roughly made boilers, others are cutting up a repulsive looking, whitish substance, known as blubber. This they are putting into caldrons, and if the "ambrosial influence" arising from those caldrons does not put coal oil ambrosia into the shade, I'll back down at once and allow Santa Barbara to be the healthiest place. Furthermore, spite of Dr. Shaw's opinion, I believe that cod-liver oil (or its still more agreeable substitute, thick cream) is still the popular remedy for lung diseases. By the Darwinian theory a whale is a modified cod; and as mathematically, the greater includes the less, so the whale must contain the cod, liver and all, and whale oil therefore includes cod liver oil. Both Allopathists and Homeopaths administer medicines occasionally by means of the sense of smell, notably so in the pungent scents applied to the nose of a person in a fainting fit. How beneficial then to invalids must be the air of Monterey, where the minute particles of whale oil continually impinge on the nasal membranes, at once supplying medicine and "ambrosial influences!"

The softness the oil imparts to the skin, and its uses as a cosmetic, generally, is known practically to but few, and those of the sterner sex; but the floating essence that pervades the air induces such radiance of beauty in the fair sex, that recourse is had to the flour barrel to dim its lustre, lest would-be admirers should be so dazzled as to become blind to the adored ones charms.

If after all this, San Luis and Santa Barbara do not allow our claim, have we not in Carmel an Indian woman of unparalleled longevity—130 years? If native savagery can do this, what may we not expect to accomplish with the aid of civilization, "Medicos," hot cakes, and aqua ardiente."

AGRICOLA.

GOOD HEALTH.

Rules of Health for Married Ladies.

Get up at 3 o'clock in the morning, clean out the stove, take up the ashes, sweep the front side walk, and scrub the front steps, nurse the baby, put the mackerel to soak, build the fires, grind the coffee, get out your husband's things to warm, see the shirt aired, boil the mackerel, settle the coffee, set the table, rouse the house, carry up some hot water for shaving to that brute of a lazy husband, and dry the morning paper. By this time you will have an appetite for breakfast. Hold the baby during the meal, as you like your breakfast cold.

After breakfast, wash the dishes, nurse the baby, dust everything, wash the windows, and dress the baby—(that pantry needs cleaning out and scrubbing)—nurse the baby, draw the baby five or six miles in the wagon for his health, nurse him when you return; put on the potatoes and the cabbage—nurse the baby—and the corned beef—don't forget to nurse the baby—and the turnips—nurse the baby—sweep everything, take up the dinner, set the table, fill the castors, change the table-cloth—there, that baby wants nursing. Eat your dinner cold again; and nurse the baby.

After dinner wash dishes, gather up all the dirty clothes, and put them to soak; nurse the baby every half hour; receive a dozen calls, interspersed with nursing the baby; drag the baby a mile or two; hurry home; make biscuits, pick up some cod-fish, cut some dried beef. Catnip tea for baby's internal disarrangement; hold the baby an hour or two to quiet him; put some alcohol in the metre; baby a specimen of perpetual motion; tea ready; take yours cold, as usual.

After tea, wash up the dishes, put some fish to soak; chop some hash; send for some more sugar; (good gracious! how that sugar does go, and thirteen cents a pound;) get down the stockings and darn them—keep on nursing the baby—wait up till 12 o'clock, nursing the baby till husband comes home with a double shuffle on the front steps, a difficulty in finding the stairway, and a determination to sleep in the back yard.—Drag him up stairs to bed; then nurse the baby and go to sleep.

Women in delicate health will find that the above practice will either kill or cure them.

Acidity of the Stomach.

Acidity of the stomach always arises from that organ not being able to digest, to work up the food eaten, to extract the nutriment which it contains, hence two results: First, the food decays, that is rots, becomes sour and generates a sour gas, which is belched up, causing a burning or raw sensation, located apparently at the bottom of the neck, or in that vicinity. Sometimes an acid liquid is generated and is belched up, and so very sour occasionally that it will take the skin off some parts of the throat, mouth or lips. Second, the food not being properly worked up, does not give out its nourishment, the system is not fed, and consequently becomes weak, the circulation becomes feeble, the feet grow habitually cold; the person is easily chilled, and dreads going out of doors; is happiest when hugging the fire, and takes cold so easily that the expression is frequently used, "the least thing in the world gives me a cold." When such a condition is reached these colds are so frequently repeated that before one is cured another comes, and there is a perpetual cough which the most unintelligent know is the certain harbinger, the forerunner of consumption of the lungs.

When persons are troubled with indigestion, and one of its effects, acidity, the advice given in nearly all cases is to take something to correct the acidity, such as cream of tartar, soda, saleratus, ammonia, the ley of wood ashes, and other alkalies. These things correct the acidity, but the stomach gets no power of a better digestion; the effects as far as sensation is concerned are removed, but the system continues to thinner and weaker; and with wasting of flesh be improperly nourished; the man grows and strength, there is diminished power of circulation; the person becomes chilly, colds are taken from slight causes and at diminishing intervals, and before he knows it he has an annoying hacking cough, which too often ends in a wasting, fatal disease.

When acidity follows eating, it is always because there has been an error in the quality or quantity of the food eaten; the stomach could not manage it, could not perform

the work imposed upon it. The true remedy is to eat less and less at each meal, until no acidity is perceptible; or to change the quality of food; and in a short time the stomach, not being overtaken, gets time to rest, to recuperate, to get strong; then it digests more food, and digests it better, with the inevitable result of a more vigorous constitution, more power of endurance, more strength of body and greater elasticity of mind, more happiness and a spirit and energy to grapple with life's duties, which makes existence a pleasure.—*Hall's Journal of Health.*

Philosophy of Bathing.

The following is from Dr. Mayo G. Smith, on the subject, and is worthy of consideration:

There are in the human body 2,700,000 glands and 7,000,000 pores, and but one per cent. of all perspirable matter consists of solid substances. The change in muscles, tissues and bones, occurs in from one to three years, and in the entire body in from six to seven years. If this old matter be retained, it causes disease—it is a real virus.

Some diseases are relieved almost instantly by opening the pores. Diarrhea is frequently cured; matter from the mucous membrane is expelled through the skin; tobacco, opium and mercury have been thus exuded. Whatever through the skin the body can expel, it can absorb. Hold the end of your finger in spirits of turpentine—it is absorbed; goes through the system, and may be detected by its odor. Constant handling of arsenic has produced death by absorption.

A doctor relates an account of a gentleman in Barbadoes, who was in the habit of daily intoxication, and had constructed a tub, with a pillow to accommodate his head, and when in this state was placed therein, and the tub was filled with cold water, in which he reposed for two or three hours, and would then arise refreshed and invigorated. When his wife or family required him, they would wake him up by taking out the plug, and allow the water to escape, when he would pleasantly complain of the "loss of his bed-clothes."

Dr. Brock, a student of Sir Ashley Cooper, once poisoned a dog, which immediately plunged into a neighboring river, and remained for some time with his body entirely submerged, after which he left his watery hospital and ran home cured. Dogs have been repeatedly cured of hydrophobia by holding them in water.

Thirst has often been relieved by immersion even in salt water, the salt probably being excluded during the process of transition.

At Charleston, during the epidemic, among several northern mechanics who had gone thither, but one escaped the prevailing fever, and he alone bathed frequently, and never slept at night in any of the clothes worn by day.

Injudicious Early Rising.

One of the very worst economies of time is that filched from necessary sleep. The wholesale but blind commendation of early rising is as mischievous in practice as it is arrogant in theory. Early rising is a crime against the noblest part of our physical nature, unless it is preceded by an early retiring. Multitudes of business men in large cities count it a saving of time if they can make a journey of a hundred or two miles at night by steamboat or railway. It is a ruinous mistake. It never fails to be followed by a general want of well-feeling for several days after, if, indeed, the man does not return home actually sick, or so near it as to be unfit for a full attention to his business for a week afterward. When a man leaves home on business, it is always important that he should have his wits about him; that the mind should be fresh and vigorous, the spirit lively, buoyant and cheerful. No man can say that it is thus with him after a night on a railroad, or on the shelf of a steamboat. The first great recipe for sound, connected and refreshing sleep is physical exercise. Toil is the price of sleep. We caution parents particularly not to allow their children to be waked up in the mornings; let nature wake them up, she will not do it prematurely; but have a care that they go to bed at an early hour; let it be earlier and earlier, until it is found that they wake up of themselves in full time to dress for breakfast. Being waked up early, and allowed to engage in difficult or any studies late and just before retiring, has given many a beautiful and promising child brain fever, or determined ordinary ailments to the production of water on the brain.—*Journal of Health.*



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SAN FRANCISCO:

Saturday, July 8, 1871.

Our Weekly Crop.

It is getting fashionable on our coast to own Celebrated Trotting Horses. As we cannot present each of our readers with a valuable steed in the flesh, we do the next best thing and present each with the fastest American horse, Dexter, in ink, hoping the substitute will be acceptable.

Mounted on a still faster steed, however, than Dexter, on the wings of thought, we ride off to examine the matter of the Grasshopper Pest, to calculate the Vintage of 1871, and to visit the scene of the Merced Cotton Experiment. Dismounting, we examine carefully the novelties in Mechanical and Scientific Progress, and then are ready for a fresh start. This time we go to Half-Moon Bay, thence up to Napa Valley, and thence again over the mountains to Colorado and its Colonies.

Returning westward, we visit the Manufactories of Wagons in California, and listen to some Practical Experience in Sheep Raising. And then comes our flying visit over the coast, notebook and pencil in hand, to jot down the Agricultural Notes of the week.

As we pass through the farm gates, we see a new Gate Spring. From a safe distance we view a railroad disaster, of the kind called Telescoping, and "thank our stars" that, whatever the vagaries of our steed, we can always steer clear of this accident. We pluck a Remarkable Plant from Nevada, and chat concerning Historical Research; we smile at the effect of Coal Oil on Cows and Sheep; and immediately after examine the state of our Health.

Getting into a botanical frame of mind, we frisk about the California Hop, roll over the California Hay, doze under the Palm Tree, vault over the California Hedge Plant, and fall to work Preserving Flowers. Getting inventive, we run over the last list of Patents. Getting lively, we climb to the top of Needle Rock and slip down the Devil's Slide. Getting literary, we look over the New Publications, review a Protest against the Tariff, and examine the Relics of the Stone Age. Getting hungry, we devour a number of California Shad.

Mourneen Flanagan brings the Home Circle to our aid in appeasing our appetite, and is helped by the other ladies, by the Young Folks, and by the people in the Kitchen who practice Domestic Economy. Between them we manage to completely satisfy ourselves.

Then we run down to a meeting of the Santa Cruz Farmers' Club, pluck a few items concerning Floriculture, and walk through the Markets out "into the middle of next week."

PROLIFIO OATS.—Mr. Pierce Wiggins, of Alvarado, has presented us with a stool of oats numbering 136 stalks from one seed. The stalks are from three to four feet high, and grew as volunteers on a piece of 15 acres of uncultivated salt marsh land which Mr. W. is reclaiming. His method of reclaiming is by means of flood-gates placed in the ditches, which are closed during high tide. The tract is flooded with fresh water by an Artesian well, and drained at low water by opening the flood-gates.

Something for Hop-Growers.

While we can with truth assert that California cannot be surpassed in many features, still we are willing to admit that we do not "know everything." Hop-growing in our State is becoming a feature—a business of no small interest to both consumer and producer. We have, however, much to learn in bringing the business to a perfectly successful basis financially. Whatever aids the consumption of the article must be considered, and whatever aids the perfection of the growth and yield is absolutely indispensable. In view of this we desire to call the attention of the hop-producers to a recent improvement in hop-trellising. If Eastern growers are benefitted by the improvement, why should not the Californian derive a similar benefit? We would advise hop-raisers to send to Frank G. Pernell, at Honeoye, N. Y., for a full description of the new trellis he has invented, and which is being almost exclusively used in the hop-yards of the Eastern States.

For the benefit of the hop-growers of California we collate from the private circular of the inventor a partial description of this trellis, that they may judge for themselves of its practicability. If hop-raising is worth attention at all, it is worth doing well, and it becomes producers to avail themselves of every improvement calculated to ensure a successful production.

The expense of the new hop trellis is only one-fourth, and the cost of tying is but one-half, of a yard poled in the usual manner, of two poles to the hill, besides spreading the vines and giving double the amount of running surface. With this mode of trellis, each row forms a long and perfect arbor of itself, causing a steady amount of air underneath, producing a healthy growth of vine, and firm, heavy hops, entirely doing away with the dull, moist atmosphere, so favorable to the increase of vermin and fatal to the interest of the hop producer.

The nature of the hop is such that when trained so as to hang horizontal or pendant, its growth is much earlier and the yield larger. Any hop-grower of experience has observed that when a pole bends so as to form a semi-circle the hops growing on it are superior to all others in the yard.

The vine is so suspended from the stake to the wire in an oblique form, that in the event of wind or rain, or both combined, it turns completely over, thereby cleansing it from vermin of all kinds.

In raising hops it is a matter of much importance that the vines should be kept separated from each other, so as to allow a free circulation of air between them, and exposure to the sun.

When the vines are allowed to grow in masses they are more subject to the ravages of insects and to the formation of mildew and rust, which greatly deteriorates their growth and lessens their yield.

By the use of this hop trellis these difficulties are obviated.

The vines are not only kept separated and each one allowed a separate growth, but by the open net-work of the trellis, the air is allowed a free circulation throughout, and the vines are effectually exposed to the light and sun.

In short, this trellis meets the wants of a large class of hop-growers, and especially those who have become discouraged with the heavy labor and the uncertainty of the business attending its culture under the old modes of growing.

OPIMUM CULTURE IN LOUISIANA.—It is said that a farmer in Louisiana has been experimenting in opium culture, obtaining 140 pounds of the drug from seven acres of land. The opium was sold for \$10 per pound, or \$1,400.

THE HAY CROP IN LAKE COUNTY is the largest ever produced in that section of the country. It is selling there at \$10 per ton.

Philosophy of Hay Making.

We copy the following precious bit of information from the PACIFIC RURAL PRESS: "Heat, light, and dry wind will take the chief part of the sugar and starch—its most important qualities—out of hay in a very short time, after it has lost sufficient water to become wilted."

Where, either in the grand realms of science, or in the broad fields of experience, the above "fact" became apparent, we are puzzled to know.

We feel prepared to assert that neither the ordinary heat and light of the sun, nor the dry winds will, *unaided by dews and rains*, volatilize, dissipate or decompose the organic compounds existing in fresh hay. —*Santa Clara Agriculturist*.

We assure our neighbor of the Santa Clara *Agriculturist* that, notwithstanding his over-confident assertion to the contrary, either the "sun" or "dry winds" will, "unaided by dews and rains" "decompose," even to a destructive extent, and to a certain degree "volatilize" [volatilize] and "dissipate" the organic compounds existing in fresh hay."

The very fragrance of "new mown hay" proves, to an unerring certainty, that the latter is true; while we have such eminent authority for the former, as Dr. Volker, Prof. Johnston, and others, who explain the philosophy of the change, in substance, as follows: When grass has been cut and partially dried, the cellular structure becomes broken up by contraction and rough handling; and then, if the grass is still allowed to continue for a considerable time, exposed to the hot sun or drying winds, a *rapid fermentation sets in*, which completely "decomposes" or destroys, and eventually *takes out* the chief part of the sugar, starch, etc., which constitutes the chief nourishing principle of the hay. This is done without the least assistance from rain or dew—outside moisture of course will render the work more rapid and complete; but the *sun and wind alone* will in a short time effect such a chemical change in the sugar, starch, etc., by simple *fermentation*, that those substances will nearly all pass off by *evaporation*, leaving the hay without the intervention of either "dew or rain," as colorless and as useless for food as straw.

If the editor of the *Agriculturist* persists in teaching his readers that no harm will come from leaving hay out in the hot sun for an indefinite time, provided no rain or dew intervenes, he will take a wide "departure" from his usually correct and really valuable course of agricultural instruction.

Palm Trees in California.

Experience is teaching us that we have heretofore had a very imperfect idea of the capacity of tropical trees for enduring the semi-tropical climate of California. But that which has already been obtained would seem to show that the elegant fan palm, at least, bids fair to become quite a feature in the landscape of Santa Clara Valley. There are already quite a number of them growing there, in open grounds, presenting all the luxuriance of tropical vegetation. The slight frosts and cold of our winter seasons seem "to have no other effect on them than to check their growth during its continuance; for we have heard of none which have been winter killed. There are two fan palms in front of the residence of Mr. V. Hoffman, on Third street, San José, which are over seven feet in circumference and eleven feet to the first leaves. They are about fourteen years old, and have become the admiration of all who behold them.

We have already in one of the early numbers of the PRESS, described the two fan palm and the date palm in the grounds of the Santa Clara College. The *Agriculturist* mentions the fact that since it has been ascertained that these trees will grow readily in that region, some of the nurserymen there have commenced propagating them in anticipation of an early demand for such trees.

Preserving Flowers Fresh.

A correspondent at Petaluma asks for "a receipt for preserving flowers perfectly." He has searched the PRESS for something but without avail. The object of seeking to so preserve them is to send them to the East, so as to show them in all their freshness of color and bloom.

We give in another column, under the head of Domestic Receipts, a plan for "crystallizing" them as it is called, or coating them with a thin crystalline covering of alum, by which means the form and color may be preserved. We should suppose they might in that condition be packed in sand as hereinafter shown, and safely transported.

They might possibly be covered with a coating of paraffine, as fruit is sometimes covered for preservation; but we doubt whether they could in that condition be safely transported.

There is still another method for preserving them, so as not to seriously affect their form or color, as follows:—Take a vessel of suitable size, cover the bottom with a sufficiency of clean sand, thoroughly dried in the stove oven, so that the stem may be so inserted therein as to support the flower. Then gently pour in more sand until the flower is entirely covered—care being taken not to injure or displace a single leaf. When the vessel is entirely filled, cover tight and your flower may be transported safely to any distance, and when taken out will still retain its form and color. We have never tried it; but have read that the plan works well. We quote from memory only.

Perhaps, however, a better way is to carefully pack the flower—a bouquet, if you choose—in a box with fine clean moss, well dampened. The box must be closed tight, but must be perforated with several small holes to admit of slight ventilation. Bouquets have in this manner been sent to New York and other Eastern cities, where they have arrived almost as fresh as when first picked. Of course only very hardy flowers can be so sent. The ends of the stems we believe are generally dipped into melted wax, which may be cut off when they arrive at the end of the journey, and the flowers revived by being immersed in fresh water.

VOLUME TWO.—We commence to-day Volume II of the PACIFIC RURAL PRESS, and the occasion presents a most favorable opportunity for more subscribers to send in their names. While we are not oblivious to many imperfections and shortcomings in the past, we feel conscious that we have ever pressed steadily onward in our earnest efforts to provide the farmers of California with a journal which shall prove a valuable medium for intercommunication and for the diffusion of useful knowledge among all engaged in agriculture on the Pacific Coast.

Our motto is "Upward and Onward," and we propose to fight it out on that line until we are able to present to the people of California an agricultural paper that shall be second to none on the continent. Our present readers will do us a favor if they will inform their friends that the PACIFIC RURAL PRESS is now fully established, and urge them to send in their names at the commencement of a new volume.

A CALIFORNIA HEDGE PLANT.—The Santa Clara *Agriculturist* recommends the California wild cherry—*cerasus illicifolia*, as a very superior plant for ornamental hedges. It is an evergreen, with a foliage of a sprightly, delicious green, that sparkles in the sunlight. It is very dense and compact, stands pruning well, and with its crinkled leaves hides both limbs and stocks. Mr. F. B. Fuller, opposite the Los Gatos nursery has a splendid showing of hedges of this plant, from seed which he planted where they were to grow. The hedges are in their fourth year, have been pruned twice each season, and stand now about three feet high and two broad—models of neatness, elegance and thrifty growth.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

(FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.)

FOR THE WEEK ENDING JUNE 20TH.

ROLLER-SKATE.—Allen Thompson Covell, San Leandro, Cal.

DYEING AND COLORING FURS.—Adolph Müller, San Francisco, Cal.

MACHINE FOR MOLDING, PRESSING AND CUTTING SUGAR.—Peter Spreckels and James Peterson, San Francisco, Cal., assignors to Claus Spreckles and Peter Spreckels, same place.

REISSUE.

SPARK-ARRESTER.—Edw'd Waud, for himself, and Benjamin F. Dorris, assignee of Edward Waud, Eugene City, Oregon—Patent No. 99,378, dated February 1, 1870.

DESIGNS.

STEAM-PUMP.—William W. Hauser, San Francisco, Cal.

GRATE-HEARTH.—John G. Iis, San Francisco, Cal.

Editorial Notes Eastward.—9.

To have visited Salt Lake City, and to have seen the place of which so much has been said, where the wonderful works of religious zeal have wrought the most surprising change in the face of Nature and made "the waste places glad," would have been a great pleasure to me; but the nature of my errand to the East admitted of no such delay, and I hastened on toward the rising sun.

Soon after leaving Ogden we come to one of the most noted localities on the road. We ride straight for the tall barrier of mountains, through which we find, however, the Weber river has cleared a grand way for us. As we puff slowly up a steep grade, we see wonderful cliffs and buttresses of rock, lofty walls between which the river rushes frantically at our feet. We pass into the infernal regions, according to the nomenclature of the localities, for we have dashed out of the sunny plains into the "Devil's Gate."

We climb along the steep sides of the mighty walls, and are crowded from one side of the river to the other. We pass into and out of a tunnel, and by a noted rock, called Finger or Needle Rock, of which we hear, which we do not see, but which has been preserved by the skill of the artist. Natural obstacles present themselves every moment, but mortal skill has enabled us to overcome them.

On we go, winding under, around and through the stone obstructions of Nature, the scenery continually presenting new wonders. Here we see the Devil's Slide, two ridges of granite projecting as parallel, irregular slabs of rock from 50 to 100 feet high and about 100 feet apart. How his Satanic Majesty managed to slide down those rocks, and how he enjoyed it; whether he took it as a daily pastime, or whether one trial sufficed; these and other interesting facts are left to the imagination of the visitor.

That lonely sentinel of Nature, the One Thousand Mile Tree, sees us come and go unchallenged, and marks the place for our memory. The accompanying engravings are found, with others of much interest, in Crofut's Transcontinental Guide.

D.

April 13, 1871,

New Publications.

SIGN WRITING AND GLASS EMBOSSEING; A Complete Practical Illustrated Manual of the Art. By James Callingham. To which are added numerous Alphabets. Philadelphia: Henry Carey Baird, Industrial Publisher, 406 Walnut street, 1871. 8 vo. pp 210. Price \$1.50. For sale by A. Roman & Co., S. F.

This is a most excellent work, gotten up in fine style and containing most valuable matter for the interest of which it treats. It is said to be the first work which has appeared on the subject of Sign Writing,

personally. I know nothing of your education or capabilities. Some men with the requisite skill and capital would make a fortune out of the manufacture of wooden clothes-pins. I could not. Whether you could or not is more than I know. If you had a son you designed to put into mercantile life, you would not ask, Does it pay, but, Will my son make a successful merchant?

More and more attention has been turned to farming of late years. Many are thinking of following the example of myself and

Thus our country has to this extent lost the benefits of this industry, which is larger in the value of its product and the number of hands employed than any other single industry in the country."

A most pregnant fact is the following statement: "The combined taxes upon all the articles forming the materials of our industry yield the government a revenue of only \$3,500,000, while they impose upon the manufacturers of boots and shoes a tax of \$18,000,000—which must eventually be paid by the wearers of these necessary articles"

"The system of protective duties raises the price of house-rent, fuel, food, clothing and all supplies, so as to render extravagant wages a necessity to our workmen. This apparent increase of wages, however, yields no substantial benefit to our workmen, because it is all consumed in the greater cost of living.

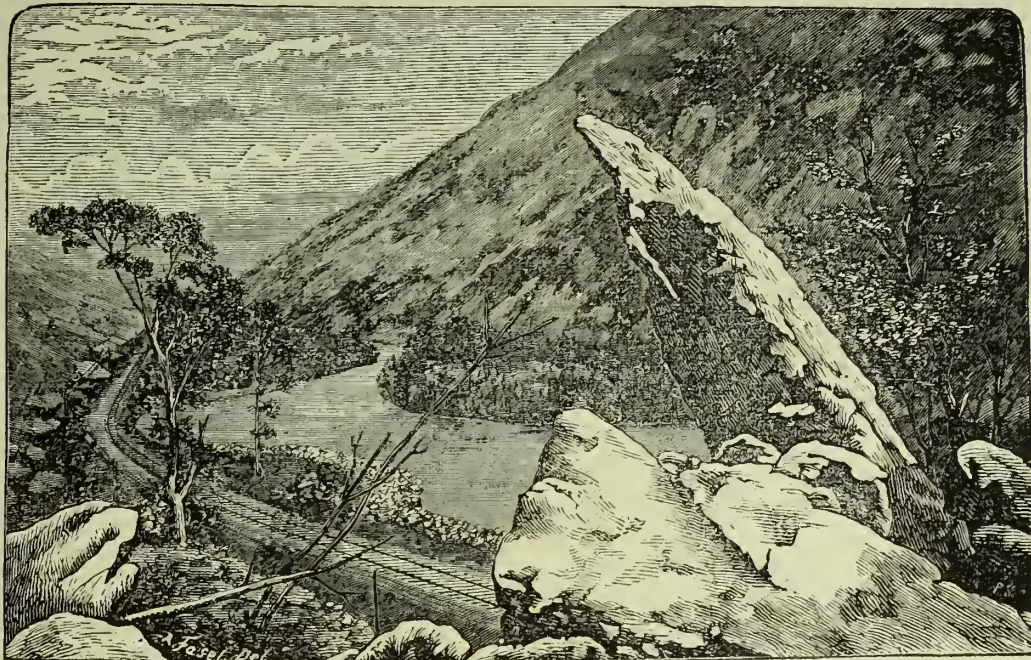
"We believe that the entire removal of all protective duties would greatly advance our industry, as we should then have the market of the world in which to sell our products, thus largely increasing the labor employed and the profits of manufacturing. We, moreover, believe that the enhanced *wealth and comfort* of our own people, consequent upon a change of system, would be evidenced in an increased consumption of our goods."

The wool manufacture at the East seems to be another industry which is being crushed by the tariff, and other manufactures are beginning to ask to be "protected against protection."

RELICS OF THE STONE AGE.—

There are but few of the valleys in Arizona in which may not be met with the remains of ancient art, which furnish abundant evidence that the country was once inhabited by a people who had attained a high standard of civilization. Among the most remarkable of these relics, says the *Arizona Miner* of June 10, are those recently exhumed from a monument in the valley of Salt river, on the land owned by Mr. McKinnie. This gentleman has, for some time past, employed his leisure hours at excavating among the ruins which constitute the principal mound on his premises. At two points, after having removed the debris which covers the ruins to a depth of about two feet, he discovered a number of apartments, varying in dimensions from nine to eleven feet square, regularly built, and still containing the cement with which the walls are coated within. Besides various kinds of agricultural implements made from fragments of slate rock, he has obtained several stone hatchets and various kinds of ornaments made from different kinds of colored stones, shells and the bones and teeth of animals. It is quite probable that further research will lead to discoveries of much greater importance—as the work has thus far been confined to the extreme sides or edges of the mounds, and valuables would probably be deposited at or near the center. Mr. McKinnie intends sending a few of his most remarkable specimens to the Smithsonian Institute.

CALIFORNIA SHAD.—The Fish Commissioners of California, besides exerting themselves to protect and save valuable native breeds of fish, are laboring to introduce choice varieties from abroad. Their first experiment in this line is the deposit of 15,000 young shad, from the Hudson river, in the upper waters of the Sacramento. This river, at Tehama, where the young fish were placed, is comparatively clear, the branch streams that convey the mining discharges, entering it far to the southward. The water had been tested and found conducive to the health of the fish and full of food for their support, and there is every reason to believe that the young fish placed in it will prosper and multiply until our rivers are stocked with them. The habits of the shad are much like those of our native salmon. It descends to salt water periodically, returning to the upper channels of fresh streams to spawn.



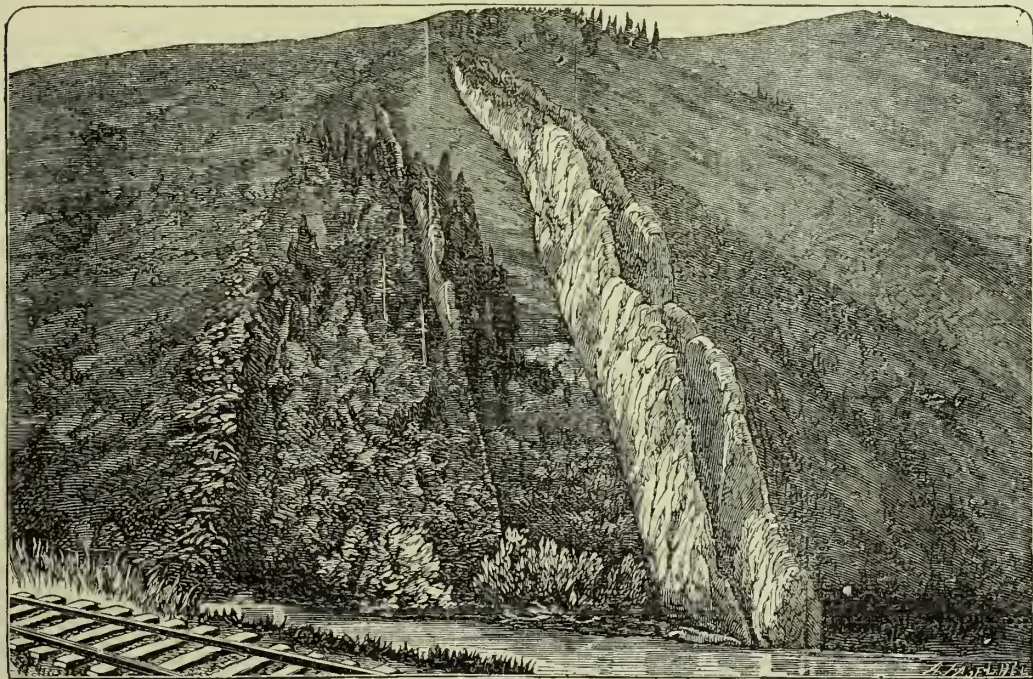
FINGER OR NEEDLE ROCK, WEBER CANON.

and takes precedence as treating of glass embossing. Such a book as this will be found of great value to many on our coast. It is full of valuable rules and hints, and we recommend it cheerfully. Beginners will find the book the greatest help, and

husband. For them I have but one word: Be sure and farm "with brains, sir."

A Protest Against the Tariff.

We have received "a protest against the tariff by the shoe manufacturers of the



THE DEVIL'S SLIDE, WEBER CANON.

even old hands will find very much of the greatest use to them.

GARDENING FOR MONEY. How IT WAS done, in Flowers, Strawberries, Vegetables By Charles Barnard. Loring, Publisher, Boston. 8 vo., pp. 345. Price \$1.50.

The author has managed to weave many valuable facts and figures into a story, which is told in an interesting manner. The picture of the farmer is held up in plain, practical colors, and the imagination is held in check by fact. The last paragraphs of the book are worthy of republication:

The question is often asked, Does farming pay? This is not a fair question. Does any business pay? Does boat-building, or soap-making, or carpentry pay? The question is not, Does farming pay, but, Can you make it pay? This is something I cannot answer, seeing I do not know you

U. S.," and we make some extracts therefrom for the consideration of our readers.

"The legislation of other countries has aimed to secure for manufacturers and artisans the raw materials of their industry at the cheapest rates. The opposite system has generally prevailed in our country, and has retarded the naturally vigorous growth of our industries.

"The tariff tax upon our leather amounts to 35 per cent.; duties on cotton and silk rubber webbing are 35 and 50 per cent., respectively; on lastings and serges, 85 per cent. Although these highly protective duties have been levied for four years, they have succeeded in stimulating only two manufactures, who make these articles only in limited quantity and of too inferior quality to supersede the imported goods.

"The result is that the manufacture of our products has been transferred to a great degree to Canada, where it enjoys greater advantages and has fewer impediments.



BY OUR LADY EDITORS.

"Was It An April Fool?"

[Written for the Press.]

An shure! if my name is Mourneen Flanagan, an' I live in Vermont, its no sign but I can read an' write, an' me sister that lives in California sent me the PACIFIC RURAL PRESS. An shure I commenced at the back end of it, an' I thinks to meself, I'll find out what kind of a paper it is. An' I found it was going to give "honest, intelligent, and correct information," an' that is just what I want, for if my name is Mourneen Flanagan, I'm not one of thim low Irish, an' I likes to have things look nice; an' says I to Dennis (Dennis, my husband) says I, California is a big country; an' may be it aint all in the sile an' the climate, an' maybe, if we look sharp to the recates, as they call 'em, we may turn out something that'll astonish the neighbors."

"Me hopes riz as I read of 'practical knowledge of science,' an' says I, 'I'll practice somethin' as is in this very paper. I read about the Humboldt praties, and the cream half an inch thick. I turned another leaf an' faith, I found the recates for the housekeeper. The first was for corn bread, an' didn't meself make a big pan full that same mornint, as fine an' brown as iver it could be. Whate bread, an' indeed I had niver a bit in the house. Cottage cheese—I read that, an' I guess I know how to make Dutch cheese widout the telling of me at all, at all."

"An' there was a recate for 'scorched goods.' Faith! I niver heard of the vegetable in ould Ireland, or in Vermont—to be boiled in milk and turpentine, with half a pound of soap.' Be jabbers! it may do for people that live in Californy climate; but niver a bit would I put sech a mess on my table."

"But I'll surprise Dennis with some white bread, so I read, 'Take a tencupfull of salt; indade, an' wouldn't it be rather salt; but I says, says I, that must be the science, an' it'll come out all right, so I dumps it in the pan. 'Mix flour enough to knead well,' so I puts in some flour an' mixed it, but it would not nade at all, at all. I worreked an' worreked it, supposin' the science would bring it right; an' shure that I had naded it enough, I set it away to rise. Every hour I took a pape at it, an' if you can believe it, as shure as I'm alive, it didn't rise the vally of a hair's breadth. I thought I must have made a mistake; but no, the recate said just 'salt and flour.'"

But after three hours it popped into my head that this climate lacked the moisture of Californy climate, an' says I, Mourneen Flanagan, you ain't a fool if you found that thought in your brain, for shure the paper promised its all honest and correct; an' I'll just drop in the wet that's lacking, an' I ins with a quart of warm milk, quite shure the science was in it now. This was about tin o'clock in the mornint. The recate said 'when light, pour the dough out on the mixing board.' Faith, an' I waited till dark that same blessed night, thinkin' it would rise, an' then says I, Ah! Mourneen Flanagan, yer a fool now if ye ever was. Indade, it must mean the blessed mornin' light, an' I set it carefully away, that Dennis might not discover it an' spoil my surprise."

"Now cut the dough into four equal parts, butter your baking tins, mold your loaves and place them in the tins." I didn't know much about molding, but I thought they had set nigh about long enough to mold themselves. "When light, place in the oven and bake." The saints defend us? another 24 hours; faith! an' that beats me, Californy science is altogether too slow to live by."

But Dennis would have that same for his breakfast to-morrow mornint, an' I dreamed all that day an' night of the enormous vegetables, the turnips, the bates, an' the cabbages—oh! the luscious cabbages—an' the praties, an' the crame an' inch thick. When the mornin' light came

into me window, plain like, "I put my loaves into the oven to bake, spaking the names of the saints manewhile, an' shure! they would come out big like the Californy country itself—faith! an' how could they help it? I tended the fire carefully an' got my breakfast on the table; in half an hour I looked in the oven. Ah! an' my faith in Californy recates began to wane. We had to eat without the whate bread. Then I hustled the childer off to school an' Dennis to work, an' I took the loaves out, an' if ye've tried that recate ye know how they looked. I read that same again. "If the crnst is too hard, wet it a little, when cold." Arrah! an' what a provident crathur the leddy was to be sure. What else could it be but hard! indade, Pat could dance an' Irish jig on it, an' not dint it in the laste. An' I might wet it all the way thro' an' it would take the best teeth in the world to take a bite. "An' what do you call em," said Dennis over my shoulder."

"Arrah! bad luck to it, its the Californy recate." "An' what is it, shure?" says he; an' I says, says I, "If you don't know that for whate bread, I'll tell 'em how to make whate bread that is whate bread." He took up the paper, an' says he, 'It's dated April 1st, you're April fooled.'"

"Nary a bit of it," says I, "an' here it is the middle of May before I read a word of it, uone the less a fool for thrying that same tho."

"Arrah, neither, an' is snpper ready." I rubbed my eyes, an' there stood Pat; an' hadn't I been fast asleep wid the Californy paper in my hand. I looked for the recate, an' 'twas there shure enough, and then I remembered laughing over it fore I went to slape."

Faith, Mr. Editor, was ye April fooled? If ye say it was a mistake of the divil, I say I think the divil himself 'ud know better. But I'll give ye a recate, Mr. Editor, if ye'll print it in your paper. Faith an' it will make good whate bread, if ye'll try it as I say:—

Pnt one handfull of hops in two quarts boiling water, an' let it boil while preparin the following: Take four large praties (faith an' if your praties don't increase in size more nor thim four loaves of bread, bad luck to 'em, ye may take a dozen or more) pare thim an' grate thim, then put in one cup sngar, one spoonful of flour and one spoonful of salt; stir together, then pour over the hop water, after straining, set on the stove and boil ten or fifteen minutes, stirring all the time; take it off, shure, an' let it cool. When about milk warm pnt in one cup of good yeast, an' let it rise, then jug it for use. This is the yeast to be shure. An' whin ye want to make yer bread, take (for three loaves) three pints of milk, an' one cup of yeast, an' one small spoonful of salt, an' pnt in flour enough to make a batter. Do this in the evening, sir, an' the next mornint pnt in more flour, till it is thick enough to nade, an' nade it, sir, an' put it in tins, an' let it rise, an' if ye please whin it is light an' big, pnt it in the oven and bake it, an' if ye don't burn it ye won't have to wet the crust to make it soft. It'll be just light and crispy if my name is

MOURNEEN FLANAGAN.

June 7th, 1871.

A Word to Girls.

The woman who is indifferent to her looks is no true woman. God meant woman to be attractive, to look well, to please, and it is one of her duties to carry out this intention of her Maker. But that dress is to do it all, and to suffice, is more than I can be brought to believe. Just because I do love to see girls look well, as well as live to some purpose, I would nrge upon them such a course of reading and study as will confer such charms as no modiste can supply. N. P. Wills wrote once a very pretty paragraph on the power of education to beautify. That it absolutely chiseled the features; that he had seen many a clumsy nose and thick pair of lips so modified by thought awakened and active sentiment as to be unrecognizable. And he put it on that ground that we so often see people, homely and unattractive in youth, bloom in middle life into a softened Indian summer of good looks and mellow tones.

DAUGHTERS.—An intelligent writer says, "It is not possible to over-estimate the advantages which would result from men in trades and professions allowing their daughters some participation in the daily work of their lives. What girls want is a larger observation of the world, and a deeper knowledge of human nature. * * There are few of our merchants and manufacturers and professional men who could not largely avail themselves of the service of their educated and competent daughters;

and if such service could be rendered generally available, it is not too much to say that a wider and more social life would arise for mankind. Man's occupation would in no sense be prejudiced, whilst women would at once find that outlet for their faculties for which many of them have been so long striving. A certain responsibility would increase their self-reliance. A capacity for earning would remove the sense of dependence; a definite occupation would bring both health and cheerfulness, and the larger experience of life would give force and completeness to their mental character."

Woman at Home.

"The stream of pure and genuine love
Derives the current from above;
And earth a second Eden shows
Where'er the healing water flows."

Home is the throne of empires on which woman sits, the scepter with which she wields the destiny of nations. All that is dear and holy, noble and divine, in society or the nation, centers back to home where woman presides as the angel of love. If she would seek the honor of exerting an influence which shall last after the present order of the universe is changed, a philanthropist whose name though not lauded by the fickle multitude, shall be remembered by the good and pure in the ages of eternity, let her not, for any social interest or cause, neglect the hallowed duties of home but watch over them with jealous trust, with devotional constancy, with unruffled vigilance, to keep that home the nursery of all the virtues, the sanctuary of the heart's deepest loves, the "holy of holies," where the divine presence may shine forth in her looks, and be manifest in her actions.

Home is woman's true sphere. There is nothing in this wide world that will confer greater honor upon her than for to make that home a type of what society should be, and of what heaven is in the graces of exalted character. As a wife, she should be to her husband a guardian angel; as a mother, charged with the high trust of directing the child, she should see that, like the work of the skillful artist, she molds it "true to nature," beautiful and pure.

SCHOOL-BOYS' HOBBIES.—School boys always have some particular hobby, and always bring it home with them. Sometimes the mania is for cricket or foot-ball, fishing or boating. I have known of a passion for ferrets which was very trying to the other members of the family, to say nothing of eager collectors of birds' eggs or butterflies. A fresh-water aquarium is a fine invention for making a mess of a boy's clothes and filling the house with small, slimy monsters; but, on the whole, speaking individually, playing the banjo is the most distressing taste for a school-boy to bring into the bosom of his family. The only comfort is that there are intervals of respite from the dreary thrumming while the banjo is being warmed by the fire; for happily the parchment of this cheap instrument stretches so much as to be useless, or rather harmless, unless it be constantly contracted by heat. This banjo of my acquaintance, therefore, passed quite half its time silently reclining on the hearth-rug before the fire, while its joyous owner watched impatiently for it to be in a fit state to resume the interrupted melody of "Rosalie the Prairie Flower," which, I may mention here is the most wearisome of tunes.

THE ETIQUETTE OF HAT LIFTING.—In passing a lady on the street the hat should be raised with either the right or left hand, according to the side on which you pass the lady. The rule is that when a gentleman lifts his hat to a lady, he should not place his hand between his eyes and hers; consequently if he passes the lady on her left, he lifts his hat with the right hand; if he passes her on her right, he lifts it with the left hand. *Vice versa*, his hand would come between her eye and his and he would not see whether she recognized him or not.

PRETTY BUT USELESS.—As a fashionably dressed young lady passed some gentlemen, the other day, one of them raised his hat, whereupon another, struck by the fine appearance of the lady, made some inquiries concerning her, and was answered thus: "She makes a pretty ornament in her father's house, but otherwise is of no use."

A LITTLE girl, on coming home from a party, told her mother that she was so happy that she couldn't be happier unless she was bigger.

YOUNG FOLKS' COLUMN.

Boys, be Accurate.

There was a young boy in the office of a western railway Superintendent. He was occupying a position that four hundred boys in that city would have wished to get. It was honorable and "it paid well," besides being in the line of promotion. How did he get it? Not by having a rich father, for he was the son of a laborer. The secret was his beautiful accuracy. He began as an errand boy and did his work accurately. His leisure time he used in perfecting his writing and his arithmetic. After a while he learned to telegraph. At each step his employer commended his accuracy, and relied on what he did because he was just right.

And it is thus with every occupation. The accurate boy is the favored one. Those who employ men do not wish to be on the constant look-out, as though they were rogues or fools. If a carpenter must stand at his journeyman's elbow to be sure that his work is right, or if a cashier must run over his book-keeper's columns, he might as well do the work himself as employ another to do in that way; and it is very certain that the employer will get rid of such an inaccurate workman as soon as he can.

Don't Fret.

Some young folks are always fretting. Are you a member of the "Fretting Society?" Do you fret when it rains, because you can't go out? and do you fret when it's a fine sunshiny day, because of the heat? Fretting because nobody comes to see you, and fretting because you don't want anybody to come? A fretty girl is a tiresome, troublesome creature. Perhaps you say, "But I have so many trials to bear, so many hard lessons to learn, or too much work to do." Well, suppose you have, does fretting help you any? The longer you sit fretting, the larger will your troubles appear. Do your duty, and bear patiently the troubles which may beset you. Be satisfied with what God gives you; look to him for help, and stop this disagreeable whimpering and fretting about trifles.—*Youth's Cabinet.*

"MAMMA," said a little boy who had been sent to dry a towel before the fire, "is it done when its brown?"

Children's Holidays.

Holidays are to children even as the golden gate to a paradise of enjoyment. We know that in after-life scarcely anything can elate us as did a "half holiday" in the early schooldays. How we bounded for very glee, and felt as though a vast field were opened out between us and to-morrow's tasks! Marvelous elasticity of childhood! buoying up the youthful spirit above the really grave troubles then met with, able at a word to carry the heart gleefully past all touch of grief, and float it away as on the wings of a sea-gull across an ocean of rapturous gladness! Who has not known the unaccountable and sudden passages of happiness that will dash across the heart of childhood, like wind-ripples suddenly seen on a lake, and leave us wondering whence they came. Such strange flashes of causeless, or apparently causeless, gladness grow less and less frequent as we advance beyond the sunny fields of childhood. What measureless pleasure then we took in the simplest toys! what infinite amusement in a top, or a kite, or slug! what resources in a fishing line or a bag of marbles, how useful that old knife with the broken blade! what interest taken in a bird-trap, or night-line set for ells! We can well remember how delighted we were at our old grammar school, if by writing a Latin letter to the doctor we could induce him, on any pretext soever, to grant us a holiday. Books were pushed aside as though gone forever, and away we sped like arrows from the string. What delight we took in making long marauding excursions into the country-around, regardless sometimes we fear, of the right of property! Those walnut trees so convenient overhanging the road by that old mile-post not far from the mill and the enclosure of a certain ancient mansion charitably afforded some great chestnut trees in such a field near the broad lake! What a charm lingers about the memory of those long free strolls into the country, and the extravagant fun we had by the way, with a daring abandonment to rollicking humor not known, and perhaps not fitting, to our after years.

LADIES' conventional clubs are becoming popular in the Western States.

DOMESTIC ECONOMY.

We gather the following items on domestic economy from one of Kate Hunnicbee's late contributions to the *Hearth and Home*:

Some one asks how, with a baby a month old, a mother can find time to attend to flower beds, or other out-door matters. She is answered as follows:

"Have a little carriage, put a pillow in it, wrap up the baby warm, and while you work at the flowers, the little one will be breathing pure air—a hard thing to find in many dwellings. It is very easy to accustom children to passing many hours every day in the open air, and they are far less subject to colds, coughs, and other complaints, if they spend a part of every pleasant day under the blue sky. A carriage is as indispensable as a crib. If it is only a box with two wheels and some sort of a shade arranged over it, to keep the light out of baby's eyes, it may save a big doctor's bill."

Breakfast Bill of Fare on the Farm.

The following is given as a list of breakfast dishes, which may come upon the table in the spring—to be varied some one morning, some another: Warm rolls, toast, fried mush, hominy, eggs boiled, scrambled, shirred or poached; fish, in its season, broiled or fried, cold corned-beef and ham, hash, beefsteak broiled, veal and lamb cutlets, rice cakes or flannel cakes, waffles and muffins. We farmers make great account of our pork barrel in spring, and of our hams. I often have fried pork for breakfast, and by way of variety, dip each slice into a batter of eggs, beaten up with flour, and then fry them. This makes an appetizing and nutritious dish, very good for workmen to plow on.

How to Cook Salt Mackerel.

We use salt mackerel at breakfast, too; for the fish wagon seldom passes our door, and we are two or three miles from market. I am always careful, in removing it from the brine, not to let it touch the oil floating on the surface of the salt water, to wash it clean, and then soak it, with the flesh side down, eight or ten hours. Then I wash it, and soak it over night in sweet milk, and dry it by the fire. It is next broiled five minutes, flesh side down, over lively coals, turned so as not to break the skin, and left over the fire ten or fifteen minutes until done. Thus cooked, it can be eaten with zest by almost any one. Cod-fish, too, comes frequently on our table by way of variety. This is soaked over night in water to freshen it, then shred fine into sweet milk, scalded and thickened with flour or eggs.

Tomato Toast

Is a favorite breakfast dish with my family. A pint of canned tomatoes, the same of sweet milk, plenty of butter, the whole brought to a boil and thickened a little with flour, then poured over bread nicely toasted—my boys and girls think there is nothing better.

Fruit, Etc., for Breakfast.

Fruit of some kind is very desirable on the breakfast table, more so, I think, than at either dinner or supper. Everybody ought to indulge, at the morning meal, in cantelopes and muskmelons in their season, if they have to raise them in a barrel of rich earth in the back yard.

There is one dish farmers might enjoy every morning, and that is cream cheese. Let the whey be drained from lobbared milk through a colander, and the curd served with sweet cream and white sugar. There is nothing more delicious of a warm spring or summer morning than this.

Dinner and Supper.

It is always easy to get up dinner and supper for a private family. For the latter good bread and butter, a plate of cold meat or dried beef, a little cheese, a bit of cake, a cup of tea or chocolate, is enough for ordinary occasions.

TABLE CLOTHS FOR CHILDREN.—A very neat and serviceable table cloth to spread under children's plates may be made by simply giving a piece of coarse muslin two coats of white paint. The first coating should be thoroughly dried before the second is applied.

SWEEPING CARPETS.—Persons who are accustomed to use tea-leaves for sweeping carpets, and find that they leave stains, will do well to employ fresh-cut grass instead. It is better than tea-leaves for preventing dust, and gives the carpet a very bright fresh look.

Apples as Food.

We have several times referred to the excellence of apples as food, either raw or baked. There is no kind of fruit that enters into the various combinations of cooking which is superior to the apple. For pies, especially, there is nothing better, cheaper, or more healthy. Care, however, must be taken in making them, if you would have them really good and palatable. A very excellent cook book gives the following receipt, than which we have never seen a better:—

Peel and cut about two pounds of apples, tart ones being the best for that purpose; cut each into four pieces, removing the cores; then cut each quarter into two or three pieces, according to the size. Put half of them into a pie-dish, slightly press them down; put over them two ounces of brown sugar; put in the remaining apples; then add another two ounces of sugar, making the apples form a kind of dome, the center being two inches higher than the sides; add a small wine-glass of water; cover the top with paste, and bake in a moderate oven, from half to three-quarters of an hour.

And here is a receipt for making what may be called an apple cake:—Mix unbolted wheat or rye-meal with cold water, making a dough or batter soft enough to nearly level itself. If shortening is desired, use sweet cream or butter. Fill a rather deep pie-plate about a third full of the batter, and sprinkle over a little sugar. Wash, quarter and core tart apples, and place as many in the batter (skin side up) as it will hold. They may be pressed down and leveled with a stiff spoon. Over the top sprinkle some sugar, and bake till nicely brown. This cake is both wholesome, nutritious and delicious. Children and grown folks can eat of it without danger of injury.

Preserving Figs.

Now is the season for preserving this excellent and healthful fruit. The following directions are given for preserving them in sugar:—Take the fruit when not quite ripe. Soak for ten or fifteen minutes in weak, warm soda water to remove the skin; or peel thinly with a sharp pen knife. To one pound of figs use three-quarters of a pound of sugar. When the syrup is made, put in the fruit, and let it boil until half done; take them up and spread on a dish, and put in the sun. Let the syrup simmer slowly, always carefully removing any impurities that may rise to the surface. When clear, put in the figs; let them cook until transparent, taking them out separately when done. Set in the sun again; if the syrup is not clear, skim again; do not let it boil away too much. Put the figs in jars, and when the syrup is cold, pour it over them. Very small and thin-skinned figs, like the "Celestial," are better if put up without being skinned.

Will some of our readers who have had experience in drying figs furnish us with the manner in which they succeed best in so preparing them; also the variety of fig experimented with. We occasionally meet with California figs equal to any ever imported, but many are quite inferior. We would like to give a reliable method for the benefit of the public. We trust that some one who has made this business a success will be public spirited enough to communicate his experience for the benefit of others. California might and should furnish the entire Union with figs and raisins.

Canned Meats.

Canned meats are coming into extensive use in New York and elsewhere at the East. A correspondent of the *Hearth and Home* says: "We have used several dozen cans of Texas beef in our family since last summer, and very much prefer it to the tough, flavorless, stringy steaks that are often all one can procure in our Busydale market. It costs only about half as much as that we get of the butcher, and is, on an average, fully twice as good. If day laborers, who must have a meat diet, could only be made acquainted with its value as food, they would buy it freely, and so get the worth of their money. For those whose teeth are imperfect, and for children who cannot be made to chew their food thoroughly, this meat cannot be too highly recommended.

Domestic Receipts.

TO CRYSTALLIZE FLOWERS.—Construct some baskets of fancy form with pliable copper wire, and wrap them with gauze. Into these tie to the bottom violets, ferns, geranium leaves—in fact, any flowers except full blown roses—and sink them in a solution of alum, of one pound to a gallon of water. After the solution has cooled, the colors will then be preserved in their original beauty, and the crystallized alum will hold faster than when from a hot solution. When you have a light covering of crystals that covers completely the articles, remove the basket carefully, and allow to drip for twelve hours. These baskets make a beautiful parlor ornament, and for a long time preserve the freshness of the flowers.

TO REMOVE STAINS FROM A BOOK.—To remove ink stains from a book, first wash the paper with warm water, using a camel's hair brush for the purpose. By this means ink is got rid of; the paper must now be wet with a solution of oxalate of potash, or, better oxalic acid, in the proportion of one ounce to half a pint of water. The ink stains will immediately disappear. Finally, again wash the stained place with clean water, and dry it with white blotting paper.

TO MAKE A GOOD MUCILAGE.—The best quality of mucilage in the market is made by dissolving clear glue in equal volumes of water and strong vinegar, and adding one-fourth of an equal volume of alcohol, and a small quantity of a solution of alum in water. The action of the vinegar is due to the acetic acid which it contains. This prevents the glue from gelatinizing by cooling; but the same result may be accomplished by adding a small quantity of nitric acid. Some of the preparations offered for sale are merely boiled starch, or flour, mixed with nitric acid to prevent the gelatinizing.

TO CLEANSE WOOL.—Make a brine, take a pint of salt to a pail full of water or thereabout, heat it hotter than the hand can be held in it, but not to boiling; put in the wool, set it off from the fire, let it stand from ten to thirty minutes, as convenient; take it out to drain, as it will be too hot to wring, then wring it, saving the brine, as a pailful may be used to cleanse fifteen pounds by heating over. Rinse in two or three waters; warm water is best. Try this, and if you are not pleased with it I am mistaken, for many of my neighbors come to me to know how I cleanse my wool to have it so white.

Mechanical Hints.

AN APPROVED WHITEWASH.—The following is sent out by the Lighthouse Board of the Treasury Department: "The following recipe for whitewashing has been found, by experience, to answer on wood, brick and stone, nearly as well as oil paint, and is much cheaper. Slake half a bushel of unslaked lime in boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice put in boiling water, and boiled to a thin paste; half a pound of powdered Spanish whiting, and a pound of clear glue, dissolved in warm water; mix these well together, and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and when used put it on as hot as possible, with painters' or whitewash brushes."

DURABLE AND CHEAP WROUGHT NAILS. We presume every farmer understands the usual method of making cut nails flexible by heating them; but if, instead of allowing them to cool in the open air, they are thrown when red hot into linseed oil, it will prevent their rusting almost as long as though they were galvanized. Those who have occasion to use cut nails instead of wrought, should not forget this simple method of preventing rust.

POISONOUS PAINTED PAIS.—The practice of painting the inside of wooden pails, to prevent leakage, is only to be recommended when the paint contains no white lead or baryta, both of which we found in the paint of some pails examined lately. All over the country these pails are used in the kitchen, and although neither lead nor baryta are very soluble in water, yet frequently the paint peels off in flakes, and may have serious consequences when getting into the tea-kettle, and thus into the food. Baryta is, however, much less injurious than lead. The paint for such purposes should be either whiting or gypsum, if required white; but most preferable is ochre, against which the sanitary objection cannot be raised. — *Manufacture and Builder*.

LIFE THOUGHTS.

He who sows brambles must look well to his shoes.

The way to Babylon will never bring you to Jerusalem.

To argue with an angry man is like preaching to the sea.

A horse is neither better nor worse for his trappings.

He who wastes time throws away that he can never replace.

It was well said by a Roman emperor that he wished to put an end to all his enemies by converting them into friends.

Should misfortune overtake you, retrench, work harder, but never fly; confront difficulties with unflinching perseverance.

SEVEN years of silent inquiry are needful for a man to learn the truth, but fourteen in order to learn how to make it known to his fellow men.—*Plato*.

LIFE is too much for most. So much of age, so little of youth; living for the most part in the moment, and dating existence by the memory of its burdens.—*Alcott*.

RELIGION, if it be true, is central truth, and all knowledge which is not gathered round it, and quickened and illuminated by it, is hardly worth the name.—*Channing*.

The World's Work.

Our external lives are not made up of great occasions, and our greatness is not in superhuman and exhaustive efforts, but in gradual growth, and this is nourished by little daily acts and sacrifices and efforts which call into exercise every faculty of soul and sense; and the lives which most deserve to be called sublime are those of which the world and history and poetry take little account. The lives of men and women around us are, for the most part, common-place, and we could not afford to have it otherwise. If all of them were reaching after occasions of rendering themselves sublime, how would the world's work be done? The world's work is tire-some, perplexing, uncongenial, and sometimes, and for some people, of necessity, it is very disagreeable and menial service, yet in the spirit in which this work may be conceived and carried forward to the end, there is a sublime purpose and consecration, be the end never so humble.

Stand Like an Anvil.

BY BISHOP DOANE.

"Stand like an anvil!" while the stroke
Of stalwart man falls fierce and fast;
Storms but more deeply root the oak
Whose brawny arms embrace the blast.

"Stand like an anvil!" when the sparks
Fly far and wide a fiery shower;
Virtue and truth must still be marks,
Where malice proves its want of power.

"Stand like an anvil!" when the bar
Lies red and glowing on its breast;
Duty shall be life's leading star,
And conscious innocence its rest.

"Stand like an anvil!" noise and heat
Are born of earth and die with time;
The soul, like God, its source and seat;
Is solemn, still, serene, sublime.

MAKE OTHERS HAPPY.—Some men move through life as a band of music moves down the street, flinging out pleasure on every side through the air to every one, far and near, who can listen. Some men fill the air with their presence and sweetness, as orchards, in October days, fill the air with the perfume of ripe fruit. Some women cling to their own houses like the honeysuckle over the door, yet like it fill all the region with the subtle fragrance of their goodness. How great a bounty and a blessing it is so to hold the royal gifts of the soul that they shall be music to some, and fragrance to others, and life to all! It would be no unworthy thing to live for, to make the power which we have within us the breath of other men's joy; to fill the atmosphere which they must stand in with a brightness which they cannot create for themselves.

THE GRAVE.—It buries every error, covers every defect, extinguishes every resentment. From its peaceful bosom spring none but fond regrets and tender recollections. Who can look down upon the grave of an enemy and not feel a compunctive throb that he should have warred with the poor handful of dust that lies moulding before him?

Economical Uses of the Grape.

The Santa Clara *Agriculturist* condemns the use of the grape for the manufacture of wine, and alludes to the great number of harmless and really valuable uses to which it may be put. It alludes particularly to its uses for food and unfermented drinks. The Mohammedans never use wine, yet cultivate the grape largely for those purposes. They eat them, fresh and dried, in immense quantities. They have a way of keeping them fresh in earthen jars half of the year, in which condition, or as raisins, they form a large proportion of their every day diet, and frequently take the place of bread and meat on long journeys. They also make a syrup or treacle from them which is quite sweet and very wholesome.

We may here suggest to the *Agriculturist* and our readers generally that a very excellent and healthy summer drink may be made by soaking the raisins in water, the fruit being afterwards very palatable and more healthy than in the first instance for food. One of our San Diego correspondents, as we published some weeks ago, uses them in large quantities in this manner.

The Arabs also feed grapes to their horses, which thrive wonderfully under such diet. They might also be economically raised as food for hogs and poultry, where land is cheap and labor not too high.

The intimation of the *Agriculturist* that grape sugar is made from this fruit in Germany, and that they might be utilized for the same purpose here, has no economic value. Grape sugar is never made—commercially—from the grape, as its name would seem to imply; but from corn and potatoes, from which substances it can be made at a mere tithe of the cost which would be required to produce it from grapes.

POTATOES—NEW VARIETIES.—Mr. A. D. Pryal, of Oakland, has shown us two new varieties of potatoes produced by him, by hybridization, which we shall notice at length next week. They are undoubtedly peculiar and valuable. Mr. P. is doing a good and much needed work in this direction. Our Half Moon Bay correspondent would, no doubt, be much interested in seeing Mr. P., and examining his remarkable products.

FRUIT SHIPMENT EAST.—It is believed that an aggregate of about 2,000 tons of fruit of all kinds was shipped East by rail, last season, from this State. The experience thereby gained in packing, and in knowledge of the Eastern market, will be turned to good account, and will undoubtedly result in largely increased shipments this year.

NORWAY OATS IN NAPA.—Mr. W. H. Baxter, of Spring Dale farm, showed us recently several stools of Norway oats over six feet high. The heads were of graceful form and fine-looking, and the stalks green and probably about three-quarters grown in height. Mr. B. thinks the Norways have done splendidly where they have had favorable ground and cultivation, considering the season. He has 80 acres, from the best of which he expects 100 bushels to the acre.

MUSQUIT GRASS SEED.—In answer to the item of enquiry with regard to musquit grass seed, Mr. William H. Whit, of Bloomfield, Sonoma county, writes us that he has a good article of the kind which he will sell for one dollar per pound.

FINE CHERRIES.—Cherries have been exhibited from the garden of Rhoda, of Fruit Vale, Alameda county, which measure three inches and three-quarters in circumference. There are ten pounds in all in the consignment, nearly all of the cherries being as large as those noticed.

CROPS ABOUT VISALIA.—The *Delta* hears that the settlers on Mussel Slough have cut their hay and that the general result has been quite satisfactory. Some grain was cut, but not as much as would have been, for want of machinery. The corn crop is looking splendid and the settlers are in fine spirits. Mr. Gray had a bunch of barley growing from one grain, which contained one hundred heads in full bearing. Not bad for such a season on land which is pronounced unfit for farming.

Cranberry Culture in California.

Mr. C. Berry asks for information with regard to the cost of setting out one acre of cranberries on tule land, in this State. As the cost depends largely on the nature of the ground, we do not know that we can do better than give the following as the estimated cost for preparing ground for similar culture at the East, by a correspondent of the *N. Y. Tribune*, and allow our correspondent to modify the same for any particular locality in this State.

Expenses.

In the average situation it costs \$100 an acre to clear off, grub and scalp. Then it consumes at least \$100 more to sand. The ditching and dyke may cost \$50 more, and it can be done in some places for \$25. The plants and setting must cost \$25 more. This makes the first cost of an acre \$250 or \$275. The outlay is often much greater, on account of stumps to be removed from the muck and the distance from which good clean sand must be hauled. I have known bogs to cost \$500 and \$750 an acre. On the other hand, when some stumps are left in and the plow and harrow can be used, I have seen acres that did not cost \$100 to put in. But \$225 is a low estimate for a good bog, and most cranberry men will say their best acres have cost them from \$300 to \$500 outlay before there were many berries to sell.

The Visalia *Delta*, in alluding to cultivating cranberries in this State says:—The sandy river bottoms of Tulare are well adapted to the culture of this fruit; and the man who gets a start with one acre will soon be able to buy out his neighbors. We have seen people at the East supporting a family and getting rich off of a five acre lot. There is no surer crop, and few things require less cultivation.

THE SANTA CLARA FARMERS' CLUB.—This organization has become a live institution and will soon get to work in earnest. The election of permanent officers was held on Saturday last, with the following result: President, Oliver Cottle, San José; Vice-Presidents, J. W. Haskel, San José, and F. Garrigus, Santa Clara; Secretary, S. Harris Herring; Treasurer, Jesso Hobson, San José; Directors, John Fitzgerald and F. Garrigus. By the constitution any person may become a member. Its objects are also as wide and liberal as its membership. Not only will agricultural and industrial questions be discussed; but it is also proposed to make it a sort of Farmer's Exchange, where any one can buy or sell any kind of farm produce, animal or vegetable. We shall look with much interest to the "sayings" of this association of practical California farmers.

Since the above was in type, and just as we are going to press, we received a full report of what the organization has done—its constitution, etc., to which we will give attention next week.

SHAD CULTURE.—Fish Commissioners Greene and Redding last week attended to the interesting duty of depositing in the upper waters of the Sacramento river, at Tehama, the importation of young shad recently brought overland from the East. Tehama was the point selected, after due examination of the river deposit and testing temperature of the water by tasting and placing in a small vessel filled with it to observe its effect upon them, the proofs that the right spot had been found. The cans were emptied over a prepared space in the river at 9 o'clock at night. Mr. Greene estimates that 20,000 are healthy, and unless they encounter some unexpected enemies, will make their way to and from the ocean, and within a few years stock the Sacramento with their species.

SECOND CROP OF STRAWBERRIES.—The indications are that the second crop of strawberries will be very light this year. The Santa Clara *Agriculturist* attributes the prospective short crop to a too heavy first cropping.

Santa Cruz Farmers' Club.

JUNE 17.—President Mattison in the chair. Attendance small; farmers very busy with their hay crop, which is good throughout the county—in some cases unprecedented.

The Club voted an annual tax of \$1 from each member; principally for purchase of books for the library. The best method of

Conducting a Dairy Farm in California

Was discussed with considerable interest. Mr. Kingsley thought the great secret, if any, was in getting good stock, and then taking good care of them.

Selecting Stock.

Mr. Feeley.—I have seen, I think in the *American Agriculturist*, [I think in *PACIFIC RURAL PRESS*, of May 20th.—REPORTER] that stock should be selected with reference to what is wanted of them, and the range. If for milk, on our rough, moist pastures, the Ayershire or the milk family of the short horns; if for beef, the short horns or Herefords; if for work cattle, the Devons, etc.

Mr. Kingsley.—Cows good for cheese, may not be the best for butter.

Mr. Cahoon.—I think if milk is rich in butter, it will also make rich cheese. Mr. Mattison explained that milk rich in casein—the cheese element—may be very poor in butter. This is a well-established fact among dairymen.

Mr. Kingsley.—I think the Alderneys are best for butter.

Mr. Locke.—As to breeds, I should prefer first the Ayershire, and second the Holland or Holstein. I can say, from experience, that those who select the short-horn for dairy purposes, must be very careful, or they will find they have got beef instead of butter.

Dairying in California.

The only essential difference between dairying in California and elsewhere, is in the care of the cows, and the time they come in—our climate allowing us to carry on the business all through the winter months, if we choose. I believe nearly all the large dairies in the State only milk through the flush season of green grass, and never think of feeding, even in the severest winter weather.

The result is a very short dairy season, a low average yield (about 100 pounds per cow), cows in a miserable condition when they come in, if they have not died outright from exposure and starvation.

Some dairymen pursue another course. They have their cows come in the fall; feed all winter, principally on cut hay and shorts or bran stirred together and moistened, say 10 or 12 hours before feeding.

As compensation they claim—high price of roll butter through the winter, improved condition of cows in the spring, making them worth as much (or more) for the summer, as those that come in in the spring, and better calves.

Mr. Kingsley.—I concur in this plan.

Mr. Mattison.—Those who have few cows—raising no calves—may do this; but at last winter's price of feed, it will not do to feed much; feed and help will equal the product of the dairy.

Mr. Humphries.—I have been paying \$35 per ton for bran—thought it did not pay, and so left off about one week ago; but my cows have fallen off so much that I am losing the hay I give them and the labor.

Mr. Mattison.—You left off just at the wrong time. I have always fed the year round with bran until this year. Am now feeding green peas—vines and all. Not quite so good as bran.

Mr. Humphries.—Cabbages would be better.

Mr. Mattison.—But we cannot raise them. I think green corn equal to bran, if sufficient is given. Plant corn for soiling from three to five kernels to the foot, in drills, which are about three feet apart. Cut up with a hoe sharpened and handle made short.

A Member.—How would it do to let the cows gather it for themselves?

Mr. Mattison.—It would require about three times as much corn. If farmers would practice the proper rotation, their corn crop would cost them but little, as the improvement of the land for the next year's grain crop will nearly, if not quite pay for it all.

Mr. Kingsley.—I take the poorest land for corn, following next year with hay and grain.

Norway Oats.

Mr. Cahoon.—I have seen 71 stalks of Norway oats, from one kernel, grown by Mr. Geo. Dyer.

Mr. Kingsley.—They are a humbug, and will soon be cheaper than common oats. They should be sown thin.

Mr. Cahoon.—How are you to get them thin when 71 stalks grow from each kernel?

Mr. Feeley.—They have had no fair test yet.

Mr. Humphries.—And can have none this season.

Mr. Mattison.—I soaked some in blue-stone—no benefit. I think them no better than the common oat.

Cultivating Corn.

Mr. Locke.—Is corn grown as a crop benefited by cultivation?

Mr. Mattison.—Not unless it is weedy. Stirring the soil will start more weeds.

Mr. Sawin.—The more soil is stirred, the moister it is. Our common black soil stirred once in two weeks, will always be moist.

Mr. Mattison.—If much rain fell after planting, the Spaniards used to plow again and replant.

Mr. Humphries.—I have raised corn here for thirteen years upon upland, and never cultivated unless to kill weeds.

Adjourned. D. M. L.

FLORICULTURE.

A NEW ENGLISH GLADIOLUS, named "John Standish" has recently been produced in England and exhibited at a late meeting of the Royal Agricultural Society. It has flesh-colored flowers, marked with crimson and purple, forming a magnificent spike.

NEW HOLLYHOCKS.—Quite a number of new and beautiful hollyhocks have recently been produced by Mr. William Chater, of Saffron Weldon, Eng. Mr. C. annually produces quite a number of new flowers of various kinds, usually very perfect in shape, firm in quality and varied in color. He makes this department of floriculture quite a specialty.

EXTRAORDINARY GROWTH OF A ROSE SLIP.—The Los Angeles *News* of June 22d, says: "One year ago Mrs. Bettis, at her residence on Main street, set out a rose slip about a foot long. It grew, divided in two branches, and is now trained over the window. If straightened out the vine would reach to the top of the two-story building at the foot of which it was planted, and the two branches united would measure over fifty feet in length. Flowers and trees have but to be planted and watered; soil and climate do the rest. The above, though but one instance of the rapid and wonderful growth often attained under the genial influence of our southern sky, will doubtless appear incredible to the dwellers in less favored regions."

HOW TO CONVERT A NUISANCE INTO AN ORNAMENT.—If there is an old dead tree near the house, you can easily convert it into a "thing of beauty." Let it be sawed off smoothly, two or three feet from the ground; an old wooden bowl or something similar, painted green, fastened on it, filled with earth, and planted with hanging vines and a variety of upright flowers. This will be a continual source of pleasure. If there is a stump big enough to be hollowed out, so as to serve as a receptacle for earth and flowers, let it not be taken away. A Madeira vine or Mexican Creeper or a grape-vine, can be trained over it.

TREE OR HANGING BASKETS, are a very great ornament to a house inside or out. They may be easily and cheaply made by any one, out of small copper wire. A common ox-muzzle is not bad for a pattern. It may be ornamented according to the taste of the maker. Such baskets lined with moss, filled with earth and flowers and hung up on the porch or under the trees about a house, are as graceful ornaments as one need have. The varieties of Saxifrage, or Wandering Jew, are easily procured, and grow rapidly. Ivy and Moneywort can be obtained almost everywhere; these will form a beginning, to which additions can be made from time to time as one may be able or have time.

California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., July 6th.

FLOUR—The market still continues quiet with little demand for either export or local use. The millers have again marked down their prices 25¢ per bbl for extra—no change in superfine.

Transactions embrace 3,500 bbls. California extra, 2,000 bbls. Oregon extra.

We quote superfine, \$6.37½@6.50; extra, \$7.12½@7.25. Standard Oregon brands may be quoted \$7.00@7.25. Inferior grades are reported as low as \$6.75.

WHEAT—Is still without demand for export, but with offerings free. We note but little change in prices since our last review. We quote \$2.30@2.35 for new, and \$2.35@2.45 for old. Sales of 10,000 sacks have been reported, during the week, at current rates.

The Liverpool market was telegraphed on Thursday at 11s. 7d. a decline since our last of 2d.—New York rates are given at \$1.65.

BARLEY—Has been in fair demand for both feed and brewing, at unchanged rates. Sales during the week have aggregated about 7,000 sks. The range of the market may be quoted at \$1.85@1.95.

OATS—Are still in limited demand, holders firm. Sales of 3,000 sacks are reported at \$1.75@2.00 for light to good.

CORN—The market may be quoted at \$2.10 @2.15, firm, with a fair supply.

CORNMEAL—Is quotable at \$2.50@3.50, according to quality.

BUCKWHEAT—Still quotable at \$3.

RYE—Nominal at \$2.50 for choice.

FEED—We quote: STRAW, \$8; BRAN, \$27.50@30.00; MIDDINGS, 40.00; OIL CAKE MEAL \$40.

HAY—The receipts are fair with good demand. We quote ordinary to choice at \$15.00 @ \$21.00 per ton.

HONEY—Is coming in freely. We quote Los Angeles comb 13@14c. Potter's in 2-lb cans, \$4.50 per doz.

POTATOES—We quote current rates 87½¢@ \$1.00 for Mission, and \$1.00@1.25 for Humboldt. This decline is due to heavy receipts and light demand.

HOPS—Demand light—prices nominal at 9 @12½¢.

HIDES—We quote Dry, slaughterer's stock, 16@18c; Salted, 8@9c. Sales during the week 2,168 Cal. dry, and 1,462 salted.

WOOL—The market is quiet, but prices firm. Oregon receipts still continue fair, with now and then a few stragglers from California. We quote the range of fair to choice shipping grades at 30@35c for California, and 37½@40c for Oregon. Sales of 100,000 pounds are reported for the week.

TALLOW—The extremes may be quoted from 7½@8½¢. Extra choice 9c.

SEEDS—Flax 3@3½¢, Canary, 7@8c, Alfalfa, 16c.

PROVISIONS—California Bacon 14½@15c; Oregon, 13@14; Chicago 14; California Hams 14@15; Oregon do, 15½@16c; California Sugar-cured Hams, 17@18c; Eastern do, 18@20c; Easteru do, 18@19c; California Smoked Beef, 13@14c.

BEANS—Extremes of quotations—Bayo, \$3.00@3.25 Butter, small White and Pea, \$2.50@2.75; Pink, \$2.00@2.50.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½¢; Pecan, 23@25¢ per lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9c per lb. Do 2d quality 6@7c per lb. Do 3d do 4@5c per lb.

VEAL—Extremes, 6@9c.

MUTTON—4½@5c per lb.

LAMB—May be quoted at from 6@6½¢ per lb. **PORK**—Undressed is quotable at 5@6½¢ dressed, 8@9½¢.

POULTRY, ETC.—Is in limited demand Hens \$6.50@7.00; Roosters \$6@7; Ducks, tame, \$5@6 per doz; geese, tame, \$2.00@2.12½ per pair; live turkeys, 18@20c per lb.

WILD GAME—Hare, \$1.50@2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 27½@30c; California firkin butter, 25@30c, Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10 @14c, Eastern, 16@17c, for new.

EGGS—California fresh, 29@30c.

LARD—California Lard, 11-lb tins, 14@15c; Easteru do. 14c in bulk, and 14½@15c in tins

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line is becoming quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@15; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---------------|---------|
| Rough, 10-in. x 12-in. x 16-in. | \$15 00 | \$11 00 |
| Surfaced, 10-in. x 12-in. x 16-in. | 28 00 | 18 00 |
| Tongued and grooved, 10-in. x 12-in. x 16-in. | 28 00 | 18 00 |
| Tongued and grooved, beaded, 10-in. x 12-in. x 16-in. | 28 00 | 18 00 |
| Rustic, worked, 10-in. x 12-in. x 16-in. | 31 00 | 20 00 |
| Siding and battens, ½-inch, 10-in. x 12-in. x 16-in. | 20 00 | 14 00 |
| Surfaced, ½-inch, 10-in. x 12-in. x 16-in. | 25 00 | 18 00 |
| Picket, rough, 10-in. x 12-in. x 16-in. | 14 00 | 10 00 |
| Picket, rough, pointed, 10-in. x 12-in. x 16-in. | 16 00 | 12 00 |
| Picket, dressed, 10-in. x 12-in. x 16-in. | 22 50 | 15 00 |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do., —; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c per lb; Raisins, layer, \$3.50@4.25 per box; Currants, Zante, 10½@11½c; 50c.

TABLE OF MISCELLANEOUS.

| | |
|-----------------------------|-------------------------------|
| Sugar, crsh'd, lb. \$14½@15 | Hemp Seed, lb. \$7 @ 9 |
| Hawaiian, do. 9 @ 12 | Castor Beans, lb. 4 @ 4½ |
| Coffee, Cos. R, lb. 15½@16 | Castor Oil, gal. 1 75 @ 2 00 |
| Rio, do. 16 @ 18 | Linseed Oil, gal. 1 05 @ 1 10 |
| Tea, Japan, lb. 50 @ 90 | Broom Corn, lb. 3 @ 5 |
| Green, do. 50 @ 100 | Seaweed, lb. 27 @ 30 |
| Rice, Haw'n, lb. 8½@9 | Peanuts, lb. 5 @ 7 |
| China, do. 6 @ 7½ | Corn Meal, cwt. 2 50 @ 4 00 |
| Coal Oil, gal. 50 @ 60 | Onions, cwt. 1 50 @ 3 50 |
| Candles, lb. 15 @ 18 | |

San Francisco Retail Market Rates.

FRIDAY, July 7, 1871.

MISCELLANEOUS.

| | |
|------------------------------|------------------------------|
| Butter, Cal. fr. lb. 35 @ 45 | Wool Sacks, new 40 @ 90 |
| Pickled, Cal. lb. 35 @ 40 | Second-hand do. 67½ @ 70 |
| do Oregon, lb. 35 @ 40 | Woolen, 22½ @ 15 |
| Honey, lb. 25 @ 30 | Potato G's Bags. 23 @ 24 |
| Cheese, lb. 20 @ 25 | Second-hand do. 15 @ 16 |
| Eggs, per doz. 30 @ 35 | Deer Skins, lb. 15 @ 22 |
| Lard, lb. 18 @ 20 | Sheep skins, w/ on 50 @ 75 |
| Sugar, cr. 6½ lb. 1 00 @ 13 | Sheep skins, plain. 12½ @ 25 |
| Brown, lb. 1 00 @ 13 | Goat skins, each. 25 @ 40 |
| Beet, do. 1 00 @ 13 | Dry Cal. Hides. Weak 18½ |
| Sugar, Map. lb. 25 @ 30 | Salted do. 17½ @ 18 |
| Plums, dried, lb. 15 @ 25 | Dry Mex. Hides. 15 @ 16 |
| Peaches, dried, lb. 15 @ 25 | Salted do. 9 @ 16 |

PRODUCE, ETC.

| | |
|--------------------------------|-----------------------------|
| Codfish, dry, lb. 6 00 @ 12½ | Barley, cwt. 1 75 @ 1 85 |
| Flour, ex. bbl. 7 50 @ 15 | Beans, cwt. 2 50 @ 3 00 |
| Superfine, do. 5 50 @ 10 | Potatoes, cwt. 1 00 @ 1 10 |
| Corn Meal, 100 lb. 3 00 @ 3 25 | Potatoes, new. 1 00 @ 1 25 |
| Wheat, 100 lbs. 2 35 @ 2 50 | Hay, 100 lbs. 16 50 @ 20 75 |
| Oats, 100 lbs. 1 90 @ 2 10 | Live Oak Wood. 9 00 @ 10 00 |

FRUITS, VEGETABLES, ETC.

| | |
|--------------------------------|----------------------------|
| Pine Apples, lb. 5 00 @ 9 00 | Cabbage, doz. 75 @ 1 50 |
| Bananas, lb. 3 00 @ 5 00 | Carrots, doz. 10 @ 25 |
| Cal. Walnuts, lb. 20 @ 25 | Celery, doz. 75 @ 1 00 |
| Cranberries, lb. 75 @ 1 00 | Cress, lb. doz. 20 @ 25 |
| Cranberries, lb. 75 @ 1 00 | Dried herbs, lb. 25 @ 50 |
| Apples, Early, lb. 50 @ 25 | Egg Plant. 25 @ 25 |
| Red Astrakhan, lb. 50 @ 25 | Garlics. 5 @ 8 |
| Red June, lb. 20 @ 25 | Green Peas, lb. 5 @ 6 |
| Pears, table, lb. 75 @ 25 | Green Corn, doz. 25 @ 50 |
| Plums, Cherry, lb. 5 @ 8 | Sugar Peas, lb. 6 @ 6 |
| June, lb. 10 @ 12½ | Cucumbers, doz. 25 @ 40 |
| Apricots, Royal, lb. 3 @ 4 | Lettuce, lb. doz. 12 @ 25 |
| Moorpark, lb. 3 @ 5 | Mushrooms, lb. 25 @ 50 |
| White, lb. 2½ @ 4 | Horse radish, lb. 20 @ 20 |
| Cherries, lb. 5 @ 10 | Okra, dried, lb. 30 @ 50 |
| Currants, lb. 5 @ 8 | Okra, green, lb. 25 @ 35 |
| Gooseberries, lb. 3 @ 5 | Pumpkins, lb. 3 @ 4 |
| Raspberries, lb. 18 @ 20 | Parsnips, lb. 25 @ 25 |
| Strawberries, lb. 8 @ 10 | Parsley, lb. 50 @ 75 |
| Blackberries, lb. 8 @ 10 | Pickles, gal. 50 @ 75 |
| Oranges, lb. cwt. 30 @ 30 | Rhubarb, lb. 6 @ 25 |
| Lemons, lb. cwt. 30 @ 30 | Radishes, lb. 25 @ 30 |
| Limes, cwt. 25 @ 30 | String Beans, lb. 6 @ 8 |
| Figs, dried, lb. 25 @ 30 | String Beans, lb. 6 @ 8 |
| Asparagus, wh. 6 @ 10 | Red, doz. 25 @ 25 |
| Apricots, lb. 6 @ 10 | Summer Squash 6 @ 6 |
| Artichokes, doz. 50 @ 75 | Marrowfat, do. 6 @ 6 |
| Brussels sprouts, lb. 15 @ 25 | Harbinger, lb. 5 @ 5 |
| Beets, lb. doz. 20 @ 25 | String Beans, lb. 6 @ 8 |
| Potatoes, lb. 2 @ 3 | Dry Lima, sh. 10 @ 12 |
| Potatoes, sweet, lb. 4 @ 5 | Spinage, lb. hskt. 25 @ 50 |
| Potatoes, new, lb. 4 @ 5 | Salsify, lb. hunch 12 @ 25 |
| Broccoli, lb. doz. 1 50 @ 2 00 | Turnips, lb. doz. 25 @ 25 |
| Caulliflower, lb. 1 00 @ 1 50 | New Tomatoes, 8 @ 10 |

POULTRY, GAME, MEATS, ETC.

| | |
|-------------------------------|--------------------------------|
| Chickens, apiece 60 @ 75 | Bacon, Cal. lb. 18 @ 20 |
| Turkeys, lb. 20 @ 25 | Oregon, do. 18 @ 20 |
| Ducks, wild, lb. 20 @ 25 | Hams, Cal. lb. 18 @ 20 |
| Tame, do. 1 50 @ 2 00 | Hams, Cross's lb. 25 @ 25 |
| Teal, lb. doz. 20 @ 25 | Choice D's field 25 @ 25 |
| Geese, wild, each 2 50 @ 3 00 | Whitaker's lb. 25 @ 25 |
| Tame, pair 2 50 @ 3 00 | Johnson's Or. 25 @ 25 |
| From Chicago. 25 @ 25 | Salmon, lb. 10 @ 12½ |
| Hens, each 75 @ 85 | Smoked, new, 10 @ 12 |
| Snipe, lb. doz. 20 @ 25 | Pickled, lb. 6 @ 8 |
| English, do. 20 @ 25 | Rock Cod, lb. 10 @ 12 |
| Venison, lb. 10 @ 12 | Smoked, lb. 10 @ 12 |
| Quails, lb. doz. 20 @ 25 | Perch, s water, lb. 10 @ 12½ |
| Pigeons, dom. doz. 30 @ 50 | Fresh water, lb. 12½ @ 15 |
| Wild, do. 1 50 @ 2 00 | Lake Big Trout 20 @ 25 |
| Hares, each 40 @ 50 | Smelts, lb. 6 @ 8 |
| Rabbits, tame, 50 @ 75 | Herring, fresh, 6 @ 100 |
| Wild, do. 75 @ 100 | Smoked, lb. 10 @ 12 |
| Squirrel, pair 25 @ 38 | Tomcod, lb. 15 @ 20 |
| Beef, tend, lb. 20 @ 25 | Terrapin, lb. doz. 3 00 @ 4 00 |
| Sirloin and rib 18 @ 20 | Mackerel, p. k. ea 25 @ 25 |
| Corned, lb. 10 @ 12 | Fresh, do. ea 25 @ 25 |
| Smoked, lb. 15 @ 18 | Sea Bass, lb. 62 @ 75 |
| Pork, rib, cte. lb. 12½ @ 15 | Halibut, lb. 62 @ 75 |
| Chops, do. lb. 12 @ 15 | Sturgeon, lb. 4 @ 5 |
| Veal, lb. 15 @ 20 | Oysters, lb. 100. 1 00 @ 1 25 |
| Cutlet, do. 20 @ 25 | Chesp. lb. doz. 6 @ 100 |
| Mutton chops, 12½ @ 15 | Turbot, lb. 62 @ 75 |
| Leg, lb. 12½ @ 15 | Potatoes, lb. doz. 6 @ 100 |
| Lamb, lb. 12½ @ 15 | Soft Shell, lb. 37 @ 50 |
| Tongues, beef, ea 75 @ 75 | Shrimps, lb. 10 @ 12 |
| Tongues, pig, ea 15 @ 15 | Pompinio, lb. 1 10 @ 1 10 |

* Per lb. + Per dozen. † Per gallon.

Go to the Best.—Young and middle-aged men should remember that the Pacific Business College is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS, M. K. LAUDEN, President, San Francisco, Cal.

TRAVIS & WAGNER, 41 First St.—Mill Stones, Bolting Cloths and general Mill Furnishing, Portable Mills of all sizes from 16 to 36 in. None superior made for farmers & ranchmen.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|---|--|
| SOLE LEATHER.—Price still continues the same, there being a scarcity of light weights. | |
| City Tanned Leather, lb. 26@30 | |
| Santa Cruz Leather, lb. 26@30 | |
| Country Leather, lb. 25@28 | |
| All French goods still have an upward tendency, with a growing scarcity of leading stocks. No change in domestic skins. | |
| Jodot, 8 Kil., per doz. 62 00 @ 66 00 | |
| Jodot, 11 to 19 Kil., per doz. 82 00 @ 96 00 | |
| Jodot, second choice, 11 to 15 Kil. per doz. 68 00 @ 88 00 | |
| Lemoine, 16 to 19 Kil., per doz. 96 00 @ 100 00 | |
| Levin, 12 and 13 Kil., per doz. 68 00 @ 70 00 | |
| Cornellian, 16 Kil., per doz. 72 00 @ 70 00 | |
| Cornellian, 12 to 14 Kil., per doz. 68 00 @ 70 00 | |
| Ogerau Calf, lb. doz. 54 00 @ 50 00 | |
| Mercier Calf, 16 Kil., per doz. 65 00 @ 60 00 | |
| Common French Calf Skins, lb. doz. 35 00 @ 75 00 | |
| French Kips, lb. 1 10 @ 1 30 | |
| California Kip, lb. doz. 60 00 @ 75 00 | |
| Eastern Wheel Stuffed Calf, lb. 80 @ 1 25 | |
| Eastern Bench Stuffed Calf, lb. 1 10 @ 1 25 | |
| Eastern Calf for Backs, lb. 1 15 @ 1 25 | |
| Sheep Roans for Topping, all colors, lb. doz. 8 50 @ 13 00 | |
| Sheep Roans for Linings, lb. doz. 5 50 @ 10 50 | |
| California Russett Sheep Linings 1 75 @ 5 50 | |
| Best Jodot Calf Boot Legs, pair 5 25 | |
| Good French Calf Boot Legs, pair 4 50 @ 5 00 | |
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Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4jy, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

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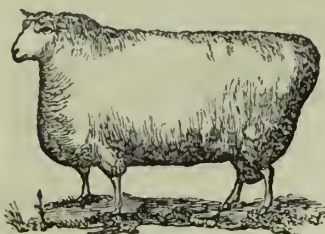
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Below, find statement of wool scoured by me for the New York State Sheep Breeders and Wool Growers' Association, of wool sheared at this meeting in this place, in May, 1867.

Truly,
WM. HAYDEN,
Woolen Manufacturer.

| Owners' Names. | No. | Breed. | Sheared. | Scoured. |
|---------------------|-----|-----------|----------|----------|
| S. W. Crandall..... | 1 | Merino. | 19 2½ | 8.2½ |
| Chamberlain..... | 2 | " | 8.10½ | 4 ½ |
| A. H. Clapp..... | 3 | " | 10.3½ | 5 6 |
| McMullen..... | 4 | " | 16.3½ | 6 4½ |
| W. Cole..... | 5 | " | 12 ½ | 5 2½ |
| W. H. Holmes..... | 6 | " | 18 ½ | 7 13½ |
| Q. Bonan..... | 7 | " | 16 6 | 6.9 |
| J. D. Wing..... | 8 | Cotswold. | 18.9 | 11.37 |
| D. H. Barnes..... | 9 | " | 11.12 | 8.7 |
| J. D. Wing..... | 10 | " | 19.4½ | 10 6 |

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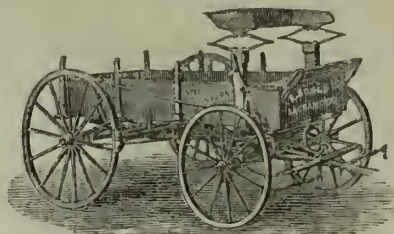
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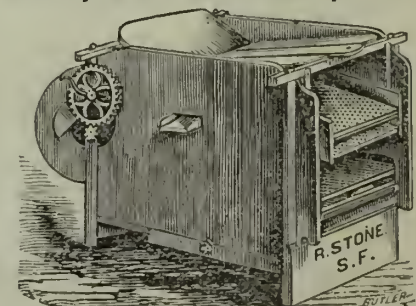


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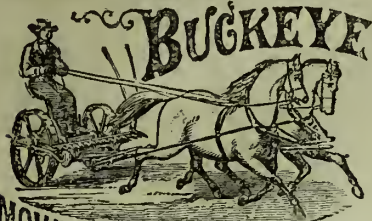
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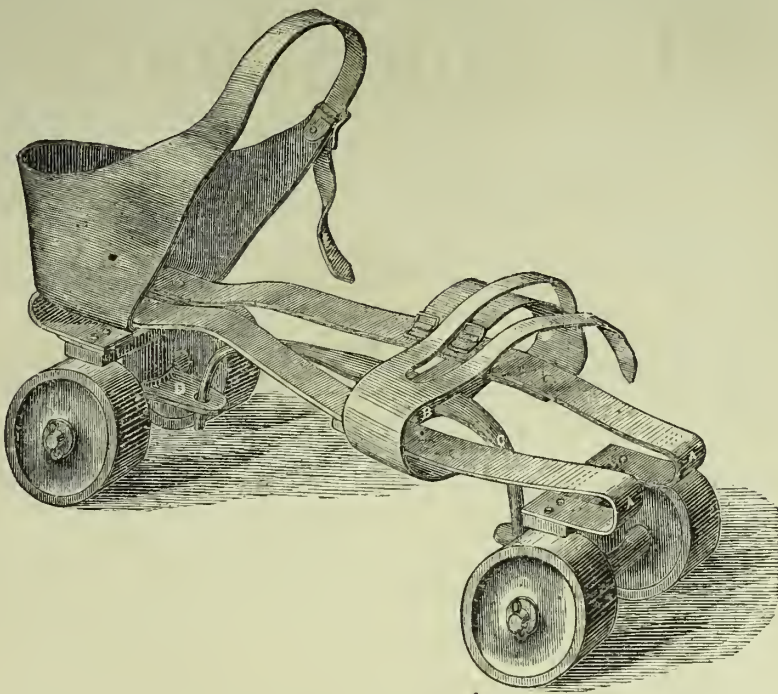
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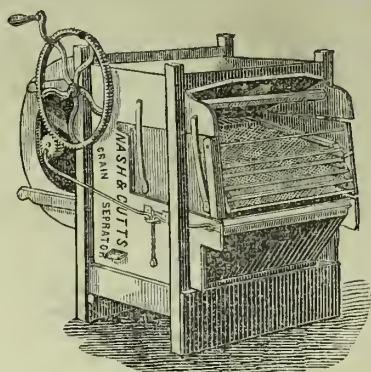
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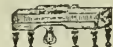
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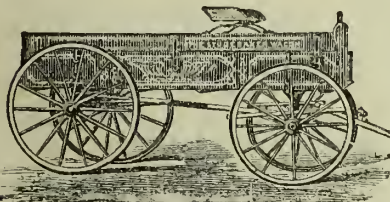
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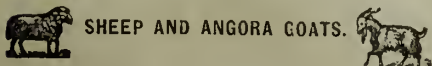
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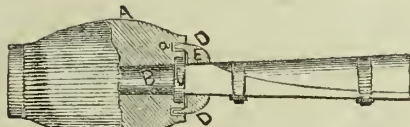
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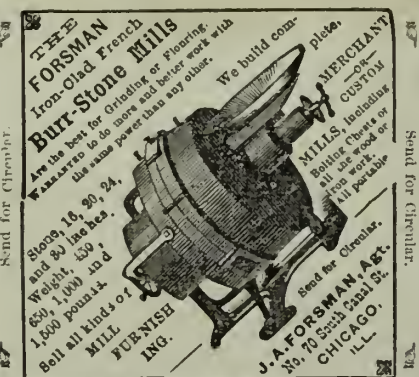
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Annual Election—Notice to Stockholders.

The First Annual Election of Stockholders of THE CALIFORNIA COTTON GROWERS AND MANUFACTURERS ASSOCIATION will take place at the office of the Association, in the city of San Francisco, at 10 o'clock in the forenoon, on Saturday, the 5th day of August, 1871. By order of the Board of Trustees. JAMES DALE JOHNSTON, Secretary. San Francisco, July 1st, 1871. Jun8-4t



To Merchants, Manufacturers, Farmers and Nurserymen.

Tenders will be received to the 25th of September next for the following supplies for the service of the

California Cotton Growers and Manufacturers Association.

Twenty tons Cotton Seed, 12 Farm Wagons, 30 Plows, 15 Harrows, 15 Cultivators, 100 Hoes, 36 Spades, 36 Shovels, 12 Road Scrapers, 12 Wheelbarrows, 12 Stoves, 12 Axes, 12 Hatchets, 12 Hammers, 12 Picks, 12 Band Saws, 4 Cross-Cut Saws, 4 Augers, 4 Brace and Bits, 4 Complete Sets Carpenters Tools, 4 Sets Light Harness, 4 Saddles and Bridles, 60 Sets Draft Harness, 250,000 feet Lumber, dressed and undressed, 100 Doors, 200 Butt Hinges, 100 Locks and Keys, 300 Sash, glazed or unglazed, 100 Kegs Nails 1,000 pounds paint, 60 gallons Oil, 500,000 Mulberry Trees, 500,000 Grape Vines, 5,000 Fruit Trees in Variety, 200 Sacks Flour, 400 Bushels Potatoes, 300 Bushels Indian Corn, 60 Draft Horses, 30 Cows and 20 Hogs.

Address Tenders to JAMES DALE JOHNSTON, Secretary and General Agent Cal. Cotton Growers and Manufacturers Association, San Francisco. 19v1-3m

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Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons; and our success and business are constantly increasing.

The shrewdest and most experienced inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

Foreign Patents.

In addition to American Patents, we secure, with the assistance of co-operative agents, claims in all foreign countries which grant Patents, including Great Britain, France, Belgium, Prussia, Austria, Victoria, Peru, Russia, Spain, British India, Saxony, British Columbia, Canada, Norway, Sweden, Mexico, Victoria, Brazil, Bavaria, Holland, Denmark, Italy, Portugal, Cuba, Roman States, Wurtemberg, New Zealand, New South Wales, Queensland, Tasmania, Brazil, New Grenada, Chile, Argentine Republic, AND EVERY COUNTRY IN THE WORLD where Patents are obtainable.

Models are required in European countries, but the drawings and specifications should be prepared with thoroughness, by able persons who are familiar with the requirements and changes of foreign patent laws—agents who are reliable and permanently established.

Our schedule prices for obtaining foreign patents, in all cases, will always be as low, and in some instances lower, than those of any other responsible agency.

We can and do get foreign patents for inventors in the Pacific States from two to six months (according to the location of the country) sooner than any other agents.

Home Counsel.

Our long experience in obtaining patents for inventors on this Coast has familiarized us with the character of most of the inventions already patented; hence we are frequently able to save our patrons the cost of a fruitless application by pointing them to the same thing already covered by a patent. We are always free to advise applicants of any knowledge we have of previous applications which will interfere with their obtaining a patent.

We invite the acquaintance of all parties connected with inventions and patent right business, believing that the mutual conference of legitimate business and professional men is mutual gain. Parties in doubt in regard to their rights as assignees of patents, or purchasers of patented articles, can often receive advice of importance to them from a short call at our office.

Remittances of money, made by individual inventors to the Government, sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. The principal portion of the patent business of this coast has been done, and is still being done, through our agency. We are familiar with, and have full records, of all former cases, and can more directly judge of the value and patentability of inventions discovered here than any other agents.

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PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, JULY 15, 1871.

[Number 2.]

Summer.

Summer, with a royal splendor
Robing now the joyous earth,
Lures in vain the royal spirit
Musing of its higher birth;
More it sighs for bliss eternal
In this hour of brightest mirth.

The artist, whose skilled hand, with unmeaning pigments, brings out marvelous pictures of Nature upon prosy canvas, generally chooses summer scenes for his ideals. Winter landscapes, however, skillfully executed, are dull and tame compared with summer views. All the most charming poems too, for which Nature has furnished the inspiration, tell us of babbling brooks and leafy woodlands.

"The old oaken bucket that hangs in the well" Is peculiarly the offspring of a summer day's comfort. As we read this electrifying summer idyl, the old-fashioned well, with its mossy bucket of oak, raised by its sweeping balance pole, seems right before us; while the thirsty farmer, with up-rolled sleeves and heated brow, can almost be seen to present his parched lips to the delicious, cooling dro ught.

What a beautiful summer picture we have here! Coolness and beauty appears in its every trace. It is redolent with the breath of roses, and the refreshing breezes of the morning seem to gently stir the leaflets as the early sun comes peeping over the distant hills. With staff in hand to steady his steps over the slippery stones, we see the early traveler wending his way across the rippling brook, perhaps to his daily labor or perchance on an errand of mercy or of friendship. Near by, the traveled road is seen winding adown the bank with the dew still moistening its dusty bed or glistening in pearly drops upon wild flowers which raise their tiny heads along its grassy sides. The picture seems the very ideal of Nature's beauty and loveliness, and is eminently suggestive of pic-nics, of cool retreats from the heat of a summer's day, of evening parties on the grass, or of lover's moonlight walks amid leafy colonades, and shady paths by the side of murmuring brooks.

MAMMOTH GOURD.—There is a mammoth variety of the gourd which grows in Africa six feet long, and of which, when green, cattle and sheep are said to be very fond. When dry, this gourd is said to present the appearance of a small anaconda. Some of the seeds of this vegetable were recently distributed among the members of the New York Farmers' Club.

HALF MOON BAY GROWTH.—Messrs. Bryant & Cook, of Davis street, have brought us a sample of Norway oats from the ranch of Butler & Wilbur, at Half Moon Bay, which measures 7½ feet, and contains 100 straws in a stool from one seed. It is said the grain stands at a general height of 7 feet in the field. Only 25 pounds of seed was sowed to the acre.

THE HIGHEST FARM IN THE WORLD.—There is a farm about four miles distant from Sherman Station on the Union Pacific Railroad which is said to be the highest in the world—an elevation of 8,000 feet. A correspondent of the Omaha Herald recently visited this farm, where he found quite an extent of ground sown with oats, which were looking well. Potatoes, peas, beans and other garden vegetables were also looking well. Two hundred apple trees set out two months previously were nearly all living and doing well. Currant bushes were also thriving, while gooseberries and raspberries were growing wild. The pasturage was excellent with promise

SHEEP RAISING IN AUSTRALIA.—The sheep pastures of Australia are on government lands. The government leases these lands to individuals in large tracts for grazing purposes. Many renters hold as high as 50,000 acres and own as many as 300,000 and 400,000 sheep.

The sheep are sheared but once a year instead of semi-annually as in California. To prevent scab and other diseases among the sheep a small annual tax is levied and collected from the owners of sheep. This money is placed at the disposal of a Board of Sheep Commissioners who are authorized to kill all sheep in the least affected with the scab, to assess the value of such

Improvements in Silk Manufacture.

We have been favored with the perusal of a letter recently received by James Dale Johnston, Secretary of the California Silk Manufacturing Company, from F. H. Rice, Esq., of Boston, a gentleman largely engaged in silk manufacture in the United States, wherein he calls the attention of Mr. Johnston to some improvements recently introduced into silk manufacture, and to which he desires to call the attention of those about to enter upon that manufacture in this State. We extract as follows:—

"M. Lewando is the inventor of a very valuable process for saving and utilizing the entire waste which is usually lost in the manufacture of silk by any other process, and thus is able to save 50 per cent. in the cost of manufacture and production of the goods from the raw material. I herewith enclose to you samples of the different kinds of waste and the thread made from the same, by M. Lewando's process, with explanations, etc., attached.

Heretofore nothing but a poor quality of black silks has been manufactured in the U. S.; but under the direction of M. Lewando, our factory will manufacture all grades, colors and styles of ladies' dress and other goods, equal to anything of the kind produced in France or elsewhere.

One of the greatest difficulties in the manufacture of silk in New England is the obtaining of the raw material made into thread ready for weaving, as there are as yet very few silk cocoon producers in this section of the U. S. I think the difficulty might be remedied in a great measure, if a factory could be started in your State, which would take the silk from the cocoon, and make it into thread ready for weaving, and thus a home market would be furnished for your production."

Accompanying the letter were a number of samples showing the waste referred to in its various stages of manufacture up to the woven goods. This exhibition of samples is very interesting from the fact of the demonstration which it makes of the possibility of utilizing almost the last pound of waste, the mass of which has heretofore formed so large a percentage of the weight of the cocoon, and consequent loss to the manufacturer. Our manufacturers here will of course avail themselves of all the latest improvements in this interesting branch of industry, which promises to form, at an early day, one of the most important features in the domestic products of California.

RIPE GRAPES.—The Tulare Times received several bunches of ripe grapes on the 6th inst. grown in the garden of Mr. J. H. Thomas, of Visalia. They were of a foreign variety, the name of which was not given.



A SUMMER SCENE.

of a fine hay crop. The growing of fruit trees is considered an experiment. Vegetables and grain, however, are considered certain crops. There is a sheltering wall of mountains on the north and west, which do much to break off the cold winds.

GRAPES.—It is estimated that there are over 300 different varieties of the grape cultivated in California. The number of vines, as set down in the Report of the Surveyor General, is 22,500,000. This is probably much below the actual number—possibly by five millions. The amount of wine produced in 1869, according to official report was 2,700,000 gallons—1,130,000 of which was from Los Angeles county. In 1870 it was not far from 4,500,000, and the yield of 1871 will probably reach about 7,000,000. The export demand is constantly increasing.

sheep and to refund their value to the owner out of the tax so raised. In this way the sheep are kept in a healthy state and the clip is allowed to get the growth of 12 instead of six months before shearing.

CALIFORNIA TREES IN COLORADO.—From a conversation with Rev. Mr. Blakcslee, of the Pacific, we learn that 3,000 fruit trees were sent from Vallecito, a mountain town in Calaveras county, to Colorado, last spring, where they were purchased at \$5 a piece in preference to eastern trees at 75 cents each. Are our trees so highly appreciated elsewhere?

PREMIUM ON FORESTS.—The Santa Clara County Agricultural Society proposes offering a premium on forests this year, and continuing so to do each successive year.

MECHANICAL PROGRESS.

STEAM ON CANALS.—The liberal reward of \$100,000 offered by New York State for the best system of canal propulsion, is attracting great attention at the East. We collate a few facts as to what has been done in late years in steam canal propulsion from the New York *Tribune*. In 1845, H. R. Worthington ran on the Erie canal for two seasons boats which, although unsuccessful financially, traveled at a high rate of speed without injuring the banks. The system of towing with wire rope, laid along the canal and passing over clip drums driven by engines on the boat, was introduced in Belgium in 1866, and is now successfully used in several places. The total cost is not one mill per ton per mile. The cost of paddle tugs on the Thames is $9\frac{1}{2}$ mills, in France as high as 1.6 cents per ton per mile; of screw tugs on English canals, $5\frac{1}{2}$ mills. There are various American patents. Among them are the following, which, however, have never been used practically. Mr. C. J. Harvey proposes to move small carriages, connected together by an endless rope working on a cable stretched on posts placed 20 feet apart on the tow path, the carriages having each a towing horn to which the tow-line from the boat can be attached. Messrs. Palmer, of Auburn, propose a chain on each side of the canal, lying along its bottom, into which fit cog-wheels on a shaft carried on the boat. Messrs. Emery & Leverich, of New York, propose a small steel rail suspended over the canal and grasped by two horizontal revolving pulleys placed on the boat. J. Read, of Catskill, substitutes for this a chain and cog-wheel working vertically. J. Roy, of New Orleans, designs using a moving cable on the tow-path, which pulleys, fixed to the side of the boat, will traverse. Narrow gauge locomotives and traction engines are proposed to replace animal power.

Worthington's boat was long and sharp in the bow. There was a wheel on each side of the boat (near the bow) with paddles inclined to the axis. M. J. Main, of Haverstraw, has a peculiar propeller in the bow, for which the present boats can be altered at a cost of \$650. Mr. Hunter has a similar device which can be attached at a less price. Both these have been in practical use. Mr. C. J. Smith, of Nyack, has a paddle made to open and close by iron rods connecting with the engine. The paddles are placed on each side of the keel at the stern, and near the bottom of the boat. At each forward motion the paddles close together, and at each backward motion they open, act upon the water, and propel the boat. Mr. E. Backus, of Rochester, proposes a wheel near the center of the boat, to roll on the bottom of the canal, and drive the boat as the driving wheels propel a locomotive. The wheel is placed at the end of a lever frame, which can be raised or lowered as required by the varying depth of the water. These are the most prominent of the various plans proposed.

PUTTING UP FENCES BY MACHINERY.—A correspondent of the *Toronto Globe* writes, "I was lately much amused at a novel way of putting up fence posts. The implement employed was a 'pile-driver,' made as ordinarily used, with about twelve feet drop for the ram, but constructed of much lighter materials. The scantling was only 2x6 and 3x3 inches, with the exception of the sills, which were stronger, and made of hard wood, to facilitate moving about—an operation which was performed by the same oxen that raised the ram. The ram itself was composed of the butt of an oak log, six feet long, banded with iron at its lower end, and about sixteen inches in diameter. Grooves were plowed in it on each side, so as to admit of its moving readily in the guides. It was hoisted up by a yoke of cattle attached to a rope. About three blows drove the post nearly four feet into the earth, and almost all went quite straight. A few—one here and there—were crooked; but these, I was told, would be pulled straight with the cattle, or dug out at the foot, so as to allow of their being pressed over, until they all came in direct line. I was informed that this course was a great saving of labor, and when quickly handled, the time that each post required to be driven was only a few minutes."

NAIRN'S STEAM OMNIBUS lately made a trial trip from Edinburgh to Portobello, (Scotland) and back. The trip was considered satisfactory, and it is stated that the owner of the omnibus intends running it daily.

IRON BRIDGES.—The Missouri will soon be spanned by six great bridges. Of these, two are completed, at Kansas City and St. Charles; two are approaching completion at Leavenworth and Omaha; two more will soon be commenced at Glasgow and at Atchison; and it is not improbable that still another will be built at St. Joseph. Over the Mississippi there are ten: the Rock Island, Clinton, Dubuque, Burlington, Quincy and St. Paul bridges being already completed, while the St. Louis, Keokuk, Hastings and Winona bridges are in various stages of construction. The Ohio river is spanned by five fine bridges, located respectively at Cincinnati, Louisville, Parkersburg, Bellair and Steubenville, and another will soon be finished at Cincinnati. Across the Niagara river there are now two splendid suspension bridges, while the third, the great International Bridge, near Buffalo, is pushing forward as rapidly as the combined forces of capital and energy can make it. Over the Hudson there is already a fine bridge at Albany, and another is soon to stretch across from Fort Clinton to Anthony's Nose, opening a most important connection between the railroad systems of the Eastern and Middle States; while across the East river will soon be swung the great New York and Brooklyn suspension bridge. It is probable that the average cost of these mentioned has considerably exceeded \$1,000,000 each. The East river bridge will probably cost fifteen, and possibly sixteen millions before it is fairly completed; that at St. Charles cost about \$1,800,000; the St. Louis bridge is estimated at \$8,000,000; that at Kansas City cost \$1,200,000, and that at Leavenworth about \$775,000. A fair average would probably be somewhere about a million and a half for each of the great structures.

AMERICAN TELESCOPES.—In the manufacture of optical instruments, we are at this time leading all the nations of the earth. American microscopes, spectroscopes and telescopes are certainly superior to any made in Europe, and this is acknowledged by some of the best scientific observers of England and Germany. Tolles' and Wales' objectives are of the highest excellence, and none better have ever been produced. The telescopes of the Messrs. Clark, at Cambridge, stand at the head of all instruments of this class which are now made, and their orders, from parties at home and abroad, are much greater than they can promptly meet. These celebrated makers have recently received orders for two telescopes, of 25-inch aperture, which, when completed, will be the largest instruments in the world. The largest hitherto made has an aperture of 24 inches.—*Ec*

COST OF PIG AND BAR IRON.—W. E. S. Baker sends to the *Iron Age* a tabulated statement of the cost of manufacturing iron in Central Pennsylvania for each year from 1850 to 1871. According to this the cost per ton of pig iron was \$14.25 in 1850, rose gradually to \$18.87 in 1855, declined to \$16.11 in 1862, reached its highest point of \$32.21 in 1865, and is now \$29.65. Bar iron commenced at \$46.57 in 1852, rose to \$76.40 in 1855, fell to \$50.30 in 1859, reached its highest point of \$127.11 in 1865, and is now \$73.62.

IMPROVED CEMENT.—An exchange recommends the following as calculated to resist the effects of all solvents in use, and making a tight joint in machinery: "Ordinary commercial glycerine and well washed and dry litharge are to be thoroughly mixed, so as to form a stiff paste, which, however, must be used immediately, as it stiffens into a hard uniform mass in a brief space of time. For taking fine casts this substance is highly valuable, as it preserves the minutest detail and can be readily prepared for either receiving the galvanic deposit or used to cast from."

STRENGTH OF IRON.—The discussion as to whether the strength of iron is diminished by cold has led the *Iron World* to compare the reports published by the railway directors on the breaking of axles on German railroads from 1863 to 1869. The percentage is as follows: Dec. to Feb., 30.1; March to May, 22.6; June to Aug., 22.7; Sept. to Nov., 24.6. According to this, it appears that the breakage is more frequent in winter than in summer.

PAPER.—The latest application of paper is as lining for refrigerators.

SCIENTIFIC PROGRESS.

PROFESSOR TYNDALL ON "SOUND."—Professor Tyndall, in delivering his sixth lecture, at the Royal Institution, on "Sound," began by stating that if the velocity of sound in wood were equal to its velocity in air, a rod of air in a tube, and a rod of wood of the same length, would both emit a note of the same pitch when they were made to vibrate longitudinally. But the velocity of sound in wood is much greater than its velocity in air. The lecturer then caused a column of air in a tube closed at its lower end, to vibrate longitudinally by blowing across the open end of the tube with his mouth, and thus the air gave a musical note. He then rubbed a rod of wood, 46 inches long, with a piece of leather covered with resin, and the wooden rod emitted a musical note of exactly the same pitch as that given by the shorter column of air. This proved that the velocity of sound through the particular kind of wood selected for the experiment was about sixteen times more rapid than through air. An open glass tube, twice the length of the other, was then sounded, and it gave the same note as the shorter one closed at the end; the speaker explained that this was owing to the fact that the air in the open tube divided itself into two vibrating segments, with a nodal point of no motion at the center of the tube, so that in fact the tube was virtually two closed tubes, placed base to base. A rod of brass, 72 inches long, was next sounded by the aid of the resined leather, and it gave a note of the same pitch as a column of air six inches long, contained in a glass tube closed at one end; hence the velocity of sound in brass is twelve times quicker than in air. The velocity of sound in iron may be determined in the same way; in brass the velocity of sound is 11,000 feet per second, and in iron 17,000 feet per second.—*Mechanics' Magazine.*

UTILIZATION OF COTTON-SEED.—Various movements have been made of late years looking toward the utilization of cotton-seed, usually considered a burden to the cotton-planter, and in getting rid of which great ingenuity has been expended. Among the more recent propositions of the kind, that of the employment of the adhering cotton, and, perhaps, of the woody material, in the manufacture of paper, has been brought forward. Lately, large establishments have been started in the South for the purpose of obtaining the oil from the seed, the refuse being converted into oil-cake for fattening cattle. The crude oil brings in New York from thirty-five to forty cents a gallon, and the oil-cake commands nearly the price of corn, being said to equal it in its fattening qualities. Shipments of the seeds have been made recently in great quantity to Liverpool from New Orleans, one vessel taking over 10,000 sacks of the seeds, and about 1,000 sacks of oil-cake; and it is expected that these shipments will be followed up on a large scale. As over 2,000,000 tons of cotton-seed are every year produced in the South, we may well imagine how important it will be to our country should the whole of this now nearly waste substance be utilized in some form. The comparative value of winter refined cotton-seed oil and of olive oil may be gathered from the fact that at the latest dates the former is quoted in the New York prices current at 72 cents per gallon, while the latter with duty off brings only \$1 in gold.—*Agricultural Report.*

A GAS TREE.—Dr. J. H. Salisbury, of Cleveland, Ohio, sends to the *Boston Jour. of Chem.* the following:—"In January last, Messrs. W. and N. Salisbury, of Cortland Co., N. Y., went on to Mt. Topin to procure white oak lumber. Having selected a tree that would answer their purpose, they commenced chopping it down. The tree was two feet in diameter. When they had cut in about four inches on the east side, their attention was called to a peculiar sound issuing from the tree. Their first impression was that it contained a swarm of bees. On striking a couple more blows, the small chips and dirt commenced flying from the stump. On putting the hand down they discovered a strong current of gas issuing from a fresh crack in the stump. The odor was like that of confined air. This blowing continued for full five minutes, when for curiosity they applied a lighted match; to their astonishment the gas ignited instantly, and burned at least five minutes, with great heat, and a blue flame like that of alcohol. After the gas had all escaped

they finished chopping down the tree. They found a hollow in the stump about six inches in diameter. Their conclusion was, that the gas light was carburetted hydrogen, and had formed from the gradual decay of the wood. You can rely upon this statement, as being correct in every particular."

THE GREAT TELEGRAPH NOVELTY of the day, says London *Engineering* in its report of the Royal Institution Conversation of June 6th, is Sir William Thomson's Syphon Recorder. It is a most marvelous combination of strength and weakness; and the strength and the weakness are so remarkably combined that it produces effects which, until its appearance in public, a few months ago, were totally undreamed of by the most sanguine of telegraph engineers. This instrument consists of a very powerful electro-magnet, between the poles of which (therefore in a magnetic field of great intensity) is suspended a core wound with fine silk-covered copper wire. This wire is put in the circuit of the telegraph line, through which the signals are received. The reading of the signals is effected by means of a syphon of capillary glass tube, about two inches long, the shorter end of which dips into a dish of ink, while the larger hangs down, in front of a paper strip moved forward by clock-work. The miniature glass syphon is connected by a very fine aluminum wire with the coil suspended between the poles of the electro-magnet, and is moved backwards and forwards as it is deflected to the right or the left. To persuade a camel to get through the eye of a needle would, under ordinary circumstances, not be a more difficult feat than to get ink through the capillary tube under ordinary pressure. But the way in which it is got through it, and not only got through it, but actually ejected in a tiny stream from the lower end of the syphon, is by the simple and ingenious expedient of keeping the ink electrified to a high tension. It is a well-known fact that, when any liquid is electrified, its particles repelling each other, it is enabled to flow through the finest orifice; and this fact, judiciously taken advantage of by Sir William Thomson, has enabled him to produce a frictionless pen-point. The electrification of the ink in the reservoir is done by a rotating electrophorus or replenisher, kept in movement by an electro-magnetic machine.

HERSCHEL'S CHARACTER.—The death of Sir John Herschel has called forth many tributes to his memory. One writer having, however, declared that his great fault was a habit of flattery, which even affected his honesty as a critic and reviewer, and his manners as a gentleman, Prof. Tyndall thus vindicates his friend's memory:—"I think it was in 1854, and in presence of a Friday evening audience at the Royal Institution, that Faraday introduced me to Sir John Herschel. From that hour to this, through the advancing years, his character has grown in beauty to me. As I knew him better, respect ripened into reverence, and until I read the words of your correspondent, this feeling never encountered from the expressed opinion of others the slightest shock. During the past week I have sought to check and extend my data by reference to older men. I have conversed with many whose intimacy with Sir John Herschel extended far beyond the range of mine, and if their unanimous and indignant testimony be worth anything, I should hesitate to write the term that would most fitly describe your correspondent's quoted words. He may, perhaps, be able to make good his position, and he may even have the courage to give his name; but, as it now stands, I must regard his article, notwithstanding its apparent warmth of appreciation, as embodying the most conspicuous personal wrong to which anonymous writing has of late years given birth."

THE SPHEROIDAL STATE OF LIQUIDS.—From Leidenfrost's experiments, it seemed probable that a drop of water assumes the spheroidal state when the tension of the steam formed at its under surface is sufficient to support the pressure of the atmosphere plus the weight of the drop itself, and that, therefore, if the pressure be removed, a lower temperature must suffice to cause the phenomenon. E. Budde has proved this experimentally by means of the following apparatus: a glass bell jar was cemented on a copper dish standing in a water-bath; the bell was connected with an air-pump and exhausted, and by means of a simple arrangement a drop of water was brought on to the plate. It was found that when the pressure was reduced two-thirds more, the drop assumed the spheroidal state at a temperature of 83° C.—*Ec.*

CORRESPONDENCE.

Ageing Wine.

EDS. PRESS:—Your second article on the ageing of wine was read with much interest, as that has been to me a subject of considerable thought and study. Is it claimed as a new invention that wine can be improved or aged by motion and heat? I remember having read, over twenty-five years ago, of wine being sent in casks, to the West Indies, and the cask being slung to a frame made for the purpose, and then swung back and forth for a time or until by exposure to the heat of the sun, with the agitation, a certain condition or improvement was produced.

I have now before me a work on wines, published in London in 1860. In the article on Madeira wine I find the following:

"Some seem to consider that heat and motion alone are sufficient to give the desired age, and I have heard of a cotton lord who used to sling his wines to the beams of his factory engines for a few months, and then pass off his wines as East India particular."

Heat and motion have been tried and no doubt thoroughly, and I think pressure has been recommended before, so that it is evident that we have something yet to learn in wine making or rather ageing wine. I must confess that I am skeptical of any process being found that will accomplish the desired object—except in a limited degree.

Grape juice is a very complicated liquid, and the changes that occur in it are but imperfectly understood. The chemist, Miller, says that, the ageing of wine depends partly on the gradual fermentation of sugar, and partly on the slow separation of saline matters, principally in the form of bitartrate of potassa, and the change of minute quantities of fragrant and aromatic ethers, supposed to be produced by the reaction of vegetable acids on the alcoholic part of wine.

Now we know that, the formation of a certain quantity of alcohol checks the fermentation; and we also know that a further change does gradually take place, resulting in improvement in the quality of the wine; and that change is ascribed to a slow continued fermentation, for want of a better or more accurately defining term.

The formation of the bouquet of wine, we can better understand from the method pursued in the manufacture of artificial fruit essences. That there are changes occurring in wine, other than those produced by fermentation, I can readily believe. The druggist has two methods of making tinctures, viz., percolation and maceration. By the first method the ingredients of which the tincture is to be made, are packed in the displacement funnel, and the liquid poured on gradually, and as it percolates downward, each fresh portion of the liquid displaces the preceding, all-ready saturated portion; now by this method the materials may be entirely exhausted, and yet the slower process of maceration (which is by allowing the mixed liquid and solid materials of which the tincture is to be made, to stand for some time before filtering off), makes, where aromatics are among the ingredients used, possibly not so strong, but a decidedly more aromatic and fragrant tincture. Apparently the different aromas are more perfectly blended together; and in making perfumes we notice the same blending, by time, of the various odors used, showing that some change is continually going on.

Now some similar action, no doubt, occurs in wine that produces the condition we call "age," after the rapid fermentation is checked. But can that condition be the result of fermentation? Can that chemical action, the result of which is the deposit of its contained salts, bitartrate of potassa and tartrate of lime, be called fermentation?

It seems evident that the condition of permanence may be obtained by the destruction or rather oxidation of the germs which are the active agents of any change or fermentation occurring in wine, and which germs are not all oxidised during the first or primary fermentation of the grape juice.

I would suggest, as an experiment that, on the occurrence of the succeeding fermentation thorough, systematic and

prolonged agitation be made by any suitable method so as to expose the wine to the action of the oxygen of the air, as rapidly as possible. No doubt the heat induced in the wine by the process of fermentation would be increased by the consequent rapid oxidation caused by the thorough and constant admixture of the air during the process, and the result of such action, at the higher temperature, would be the perfect oxidation of all matter susceptible of such change, and a permanent wine would be produced; provided, however, that the wine subjected to such action contained sufficient sugar to furnish the necessary quantity of alcohols; for unless the sugar is in sufficient amount, no process will make a wine of keeping quality—the acetous fermentation following rapidly the vinous in such cases. But I confess I am skeptical as to the possible amount of improvement by any quick process. A year or two of apparent age may be gained; but I doubt if the delicate and gradual processes of nature can be thus imitated.

VINO.

Sacramento, July 5th, 1871.

Water Pipes for Domestic Service.

EDITORS PRESS:—There is a question in my mind which seems to be of sufficient general interest to warrant an answer through the columns of your paper.

What kind of pipe for conducting water for use in a family is the best, especially in the very important matter of health? All through the mountains lead pipe is almost universally used. In this vicinity the water is constantly flowing through the pipe into a reservoir. In such cases can the water be appreciably poisoned? Common gas pipe (iron) is also used, but if the water remains still, it often is colored with rust when drawn off. Will the pipe rust to hurt if the water is constantly flowing? When you inform us as to the best kind of pipe, if neither the common lead or iron pipe, please say if it can be got in San Francisco.

As health is the greatest physical blessing, it seems to me if lead pipe is injurious that the best substitute should be generally known. I have been told that the common galvanized iron pipe is worse for use than lead pipe; also galvanized sheet iron when used for tanks. Is lead pipe lined with tin any better? As our water all through the foot-hills is brought from springs in metallic pipe, the question is, what is best, as wooden logs are generally out of the question.

W. C.

Smartsville, June 10th, 1871.

The use of galvanized iron pipe is dangerous, and cases of poisoning are now well proved to have arisen from this article. Galvanized iron pipe is iron pipe coated with zinc. The zinc is changed by the action of most kinds of water to an oxide, carbonate or chloride, which are poisonous salts. We therefore warn our correspondent against the article either for conducting pipes or for tanks.

Lead pipe is the cheapest and most easily manufactured, and has often been used with impunity for long periods of time. But pure water has been shown to act quite energetically on it. Most waters, especially spring water, however, contain carbonic acid. The action is this: At first the lead is oxidized to a poisonous oxide of lead. If the water contains enough carbonic acid, this is changed further to the insoluble carbonate of lead, which coats the interior of the pipe, and thus protects it against further action. But organic or alkaline matter acts as a solvent on this carbonate. The gist of the subject is that lead pipe is not necessarily dangerous. But in order to be on the safe side, a chemical analysis of the water used is to be recommended. This will show whether it is safe or not.

Tin-lined lead pipe has no advantage over lead pipe, but the reverse is rather the case, as the combination of the two metals hastens the chemical action of the water.

Tin pipe, i. e., of block tin, is safe. It is readily acted upon by some waters, but the salts are not poisonous. The pipe is, however, very expensive.

Iron pipe is perfectly safe. The only objection to it is that it rusts, is therefore not very durable, fills up, and, as our correspondent has remarked, often stains the water. But coating the pipe with asphaltum is said to protect against rust. Sections of iron pipe laid by the Spring Valley Company for conveying water to this city, which had been thus coated (by dipping in boiling asphaltum), have been found in excellent condition after lying ten years. Other material can doubtless be used with advantage.

Ocean Travel.

On board the steamship John L. Stephens, in the harbor of San Francisco, bound for Portland, Oregon. Weather clear with strong wind from N. W.

There comes the Colorado steaming up along side, she is bound for Panama, with more or less passengers for New York. Why don't the Constantine come out? She is an opposition steamer, and has done excellent service for the general travel reducing the fare from \$36 to \$20 to Portland.

Well, there is a grandeur and pride in looking upon these proud ships as they bear the commerce of nations and the people from one country to another.

Now the heart softens while we notice the glistening tears as they are shed, and the parting salutations of friends; we turn our eyes from these sights of grief and our mind as far as we can from its sad reminiscences, and rest the vision along four or five miles of wharfage lined with vessels, and as we swing around far enough outside the shipping to overlook the dense network of ropes, canvas, and masting, our eyes rest upon the city. It forms a dark looking back-ground destitute of comeliness, or beauty; its tall spires seem but a poor relief; the one on Mission street, (some 140 feet high, I believe) looks like a stack of corn blades, while the streets on the hillside look like furrows laid off for corn, and washed by heavy rains; the blocks of buildings like stumps and stones. You may call this a western farmer's view, instead of a birds-eye view, of the metropolis of the Pacific coast.

As we run out through the Golden Gate, our flag bows adieu to the magic city. The Colorado turns south, while we turn north, and soon begin to realize that we are in mid ocean—God's trackless highway. As we strike the bold white-crested waves, a shock is created almost equal to running into a sand bank.

Our noble ship now becomes, in our estimation, a tiny craft, and cuts up as meek and ridiculous tricks, as a Mexican mustang. She rears and plunges and tries hard to roll over. You won't be surprised at my comparison to the horse when I tell you, that as I stand with legs braced, hands holding to the stairway railing, and eyes dimly, dizzily observing inner objects they cover two doors at the aft end of the upper saloon on each of which the word "Bridal" is engraved on a silver plate. Well, as dizzy as I am I query, and as I cast my receding sight upon the woe-begone countenances around me. I wonder if the word "Halter" would not have been more appropriate; then come to the conclusion that there may be an occasional young colt bridled there, but no old hoss could be got into them little stalls.

Poor, frail mortality, one after another relaxes his hold upon railing, or post, and lurches from one side to the other, clutching at nothing, but making unsteady headway to their state rooms, where they lay themselves away in their births,—Oh! so sick.

Dinner is now being served up; the savory dishes make our noses turn up at the end like an elephant's proboscis. Oh! almighty steward, though you may not hold the keys of life and death, yet you do hold a plate of onions!

For the sake of prostrate humanity do let that dish pass overboard. But no, they must remain. Likely its for the best, as they will accelerate the settlement of our earthly accounts.

Oh! mortality, boasting a free agency; ain't you sorry you didn't go over the top of Shasta and Scott's mountains to the land of the wobfeet?

Our proud ship, so recently and so quietly, now a floating hospital, filled with a living death, plunging and wishing in despair. Days drag out their tormented lengths before many of the "pale faces" begin to totter forth at the summons of the gong.

A whale is said to be in view; but few are able to get on deck to see the monster. As he shows some hundred feet of his back, it looks as though he had screwed his hose to the western end of the Chicago artesian! Some people try to imitate Jonah's captor, and set him on a cold piece of marble with a pipe run up through his mouth to pump for small fish in a fountain. The comparison is like a cradle roll to Mt. Hood.

Well, here we are, in an inland, fresh water, sea port—the thrifty little city of Portland, with its front pretty well submerged, and Ben Holladay's railroad, on the East side covered by the snow water of the Cascades.

We now bid adieu to the John L. Stephens which may be as good as the most of ships, but our dreary recollection of her will save my ever having to buy another tartar emetic; and if a horse and cart can be procured, will save me from seeing any more whales.

E. P. H.

Portland, Oregon, June 9th, 1871.

Crops, Etc., in Tulare County.

EDITORS PRESS:—Having just finished up my weather report for June I have barely time to add a few lines. I have been too busy to write for some weeks or I should have made some remarks about blackberries from my own experience in California and Pennsylvania. I may yet send you something before planting time comes; but the absorbing question at this time is

Grasshoppers,

though they are not as plentiful just now, since they have eaten up about all our crops. They came flying, this time, and went over our fences destroying old and young vines to the number of twenty thousand at least, including quite a number of choice varieties, besides peach trees, apples, etc., in nursery, also vegetables; in fact almost every green thing, except large fig trees, and small oranges which are covered with bags, and a bunch of Impha which now stands green in the center of the garden, where it was planted two years ago, and without irrigation has flourished in spite of drouth, frost or hoppers;—giving the hint that making sugar and syrup may be a good and safe business here.

Barley.

We had not rain enough for barley the past winter. The grain has done best on land that had been plowed the year before and not cropped, even when not sowed until February. It is best when drilled in, 2½ feet apart and 30 lbs. per acre. Our deep plowed land was not rolled, so lay up too loose and dried up too much to do any good. To save expense in harvesting we let it get ripe, broke it down by dragging over it a 16-foot board, both ways, then raked up clean with fine tooth rake, thus at little expense saving it all.

The Grape Crop, Etc.

Two successive dry years have been hard on cattle men and grain farmers; but the grape stands it well and will be both very early, as well as fine in quality, here. All we need is enough settlers to cultivate most of the land between Tulare river and Deer Creek, a tract about 4 by 8 miles in extent. Then we shall be clear of the pest, and this place will become noted for its extra early and fine grapes, raisins, etc. We have a rich, dry soil that can be plowed at any time during the summer; a healthy climate that needs no coal oil or wool to purify it; though if that is good it might be well for the people on the river bottom to have some to keep off the chills which they have there; but that is not necessary, as nature has provided a superior soda spring, beautifully situated in the mountains near by where they go, during the warm weather to recruit and have a good time drinking the sparkling water. I used to say, when living in Alameda county, that California would be a fine state if it was not for the mosquitos and fleas; but it is very seldom we see one of the former, and never any of the latter here.

ISAAC B. RUMFORD.

Orange Grove, Tulare Co., July 2.

WEIGHT OF WOOD.—In the Carpenters' Hand-Book, we find the following given as the weights per cubic foot, respectively, of the woods named:—Beech, 40 pounds; Birch, 45 pounds; Cedar, 28 pounds; Hickory, 52 pounds; Ebony, 83 pounds; Yellow Pine, 38 pounds; Cork 15 pounds; White Pine, 25 pounds; Lignum-Vite, 83 pounds.

WHEN TO SELL HAY.—It has been ascertained that well-cured hay weighed in the field July 20, and then stored in the barn until February 20, had lost 27½ per cent. of its weight. It is, therefore, better to sell hay in the field at \$15 a ton than from the barn at \$20 in mid-winter.

MEERSONAUM is said to have been found in Patagonia.

A Lesson for the Season.

Deep Tillage a Partial Remedy for Drouth.

The *Australasian*, of Melbourne, has published a series of essays upon the "Diseases of Plants," most of which the writer attributes to too high or too low a culture of the soil. He suggests a medium course—less manure, with deeper tillage—as a remedy, which, if judiciously followed, will result in a more even and better yield of both grain and root crops. If his theory be correct and applicable in Australia, it must certainly be so, to a certain extent, in California, where drouth is an exception, although the uplands frequently suffer from a short supply of rain. We offer an abridgement of the 3d essay to the consideration of California farmers, many of whom will no doubt put the theory to the test.

Good Farming

Consists in keeping in full health and vigor every plant it is desirable to grow. Instead of looking for a heavy return from one crop, after a large outlay for manure, it seeks to obtain a full and steady yield from all, year after year, with a minimum of risk. And this is only to be effected by deep tillage; with this, less manure is necessary to insure a full crop; and let the season be wet or dry, provided the tillage be only deep enough, and the soil be suitable for this, the returns are almost alike. Crops usually suffer from too much or too little moisture to their roots, and it is only by deepening the soil that a medium supply can be maintained, and steady growth and perfect health secured.

Of course, where the surface soil lies on sand or gravel, nothing is to be gained by breaking through into either; but when the subsoil is clay, the more will the soil above it yield, and the more independent will the owner be of the seasons. If we cannot alter the climate, causing the heat and rain to be more equally divided, and better distributed through the winter and spring, we can at least modify the effects of too much heat on the soil, and so prevent the diseases from which our crops suffer the most.

On a deeply tilled soil rust will do little harm in the wettest or muggiest spring—probably the greatest loss here [in Australia] to the grain crops over a number of years is from the blighting effect of the great heat when such crops are approaching maturity. Three years out of four we hear of the grain being inferior to the prospect, or deficient in proportion to the head. This is in consequence of the roots not having a sufficient supply of moisture available when the grain has to be filled; hence blight, to a greater or less extent, whenever the summer sets in hot and dry at the same time. Wheat, and indeed other sorts of grain too, can bear very much heat without injury, provided the plant has in it sap enough to support rapid evaporation; but when the roots have only four or five inches of soil to draw this from, the sap must soon fail, and as the grain is the last part to be brought to perfection, that suffers the most. It would be difficult to estimate our exact loss from this cause; but as our summers are mostly hot and dry, and the plowing shallow; this partial blighting of our grain crops must greatly reduce the yield over a number of years.

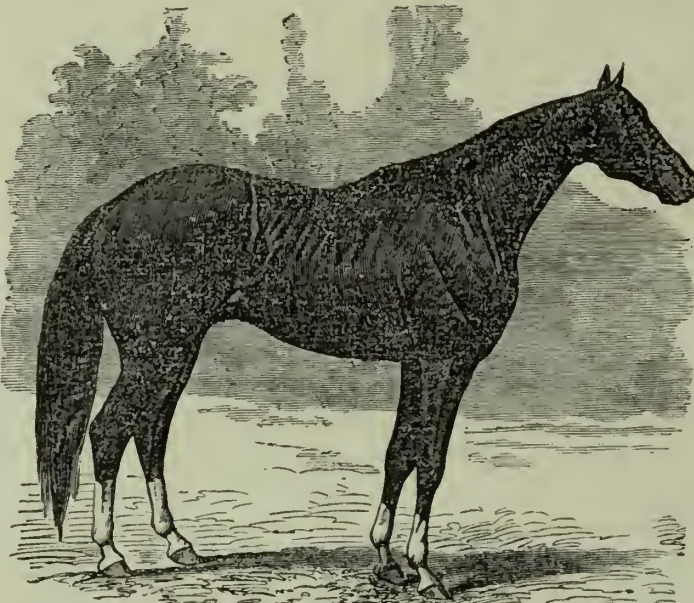
With the one remedy for so many diseases—this last, although not so named, is in reality amongst the worst—deep tillage must be good farming here more than in the old country. There is no security in growing grain on four or five inches of soil, and it is still more risky to attempt to grow roots. The best land has naturally a far greater depth; but the ordinary mode of practice tends to form a barrier impassable to delicate roots between the deeper soil and what is every year turned over with the plow, and to limit their range in search of nutriment to this last. The plow so compresses the former, in sliding over it, as to make it in time almost impervious to water, and the longer a piece of even the best land is tilled, the more clearly defined does this artificial demarkation become; whereas, the farmer's object should be to increase the depth of his surface soil, if only half an inch at a time.

Subsoiling

Is looked upon as terribly expensive work; but it need not be so. If it is determined to break up a stiff clay subsoil to a depth of six or eight inches, this can only be done with a strong implement, and at a proportionate expense; but a farmer may,

without adding to the strength of his ordinary teams deepen his soil by one or two inches at a time. If the subsoil contains nothing injurious to vegetation, this may be done by turning up a somewhat narrower and deeper furrow slice; but if the subsoil is a cold or raw clay, the extra depth had better be gained by running a second plow with a mold-board, through the furrow. This should be done even though only half the surface can be got over in the day. The depth stirred will be more by one or two inches than can be opened by the plow at one operation, and an inch of increased depth is worth more than the time lost in securing it. This inch will contain moisture enough, in summer, to fill the grain of a corn (wheat) crop, after the upper four or five inches is parched and dry; although these last, with the additional open soil beneath, will never become so parched as they are now when lying between the sun and the stratum impervious to moisture.

Taking any view of the subject we may, we come to the conclusion that deep tillage [on suitable soil] is the great panacea for all the ills to which the farmer is subject. That alone will prevent the disease and blight of all sorts which now reduces his grain crops by a fourth, sometimes even one-half, and enables him, besides, to grow more roots and fodder for his stock; the



THE AUBURN HORSE.

maxim of a good farmer now must be "till deeply, and manure moderately." This moderation in the use of manure will allow of its more frequent application, so that all crops will benefit alike from its appliance, and none be forced into a state of disease; and thus will farming become more satisfactory and more profitable.

Numerous isolated instances of the above practice in this State, the past season, to which we have from time to time called attention, fully sustains the position taken by the writer in the *Australasian*.

Much objection has been made in certain quarters to deep plowing; but we have yet to hear of the first instance where it has failed to prove beneficial, when practiced upon a close subsoil, unless the ground was plowed either too wet or too dry, so that it could not be thoroughly pulverized. When a shallow soil overlies loose sand or gravel, it, of course, should not be broken through by deep plowing; but under all other conditions, and especially in time of a severe drouth, deep plowing will increase a crop from 15 to 50 per cent. The latter has been realized in this State in a great number of instances the past season; and in some few cases we have heard of total failures under shallow plowing and poor tillage, while deep plowing and good tillage on adjoining land no more favorably situated, have resulted in fair crops. Rolling will sometimes be found very serviceable on loose soil, or that which is not thoroughly pulverized by the plow, with either deep or shallow plowing.

"CRYSTAL PALACE."—The ram shown in our advertising columns, was the grand sire of the French Merino ram of Robert Blacon, of Centerville, mentioned in our last issue.

The Auburn Horse.

This horse, whose death was so greatly lamented, was a chestnut, with four white legs and a blaze in the face. He was sixteen hands high, with great bone and muscular power, and a magnificent stride and action. He was got by Champion, Jr., and was bred at Lodi, New York. After Mr. Bonner purchased him, his first trials was to road wagons against the famous gray mare Peerless, by American Star. She was then thought to be the fastest trotter in America, and no doubt she was, as well as one of admirable stoutness, equal to two miles to wagon inside of five minutes. Yet the young horse held his own with her, and the trial was practically a dead heat, while the Auburn Horse pulled the most weight. The late Hiram Woodruff declared that the fastest rate he had ever ridden behind a trotter was when he drove the Auburn Horse at his work on the Union Course. He was a very steady, staunch horse, as well as one of wonderful speed.

A NOVEL BEE HIVE.—Mr. J. Beatty recently found a swarm of bees in the dried

carcass of an ox, on the San Joaquin valley plains, from which he took 40 pounds of honey. The bees in that section of the country, when they cannot find such a hive, make their honey-comb in the open reeds and tules.

Cinchona.

The Agricultural Bureau at Washington, are cultivating with apparent success, from importations from the British Governor of Jamaica, a quantity of these (Peruvian bark) trees, and will have some 2,000 to transplant and distribute in January. They will not bear over two degrees of frost. Elevated ground free from frost is preferred. We think that California offers a very desirable field for their culture, and hope our State will share liberally in the contemplated distribution, although its quota be necessarily delivered at a more favorable season for transit over the mountains. Seed for this tree could doubtless be secured by application to His Excellency, W. A. G. Young, Colonial Sec'y, Kingston, Jamaica, W. I., or to U. S. Consul Runsey, Quito, Ecuador, South America. Instructions for cultivating would doubtless be given freely by those gentlemen. It certainly would by the department at Washington.

ORCHILLA.—It is said that the speculation in orchilla, which so far as is known, is the only marketable article produced in Southern California in the vicinity of Magdalena bay, has already been overdone, and the price is likely to fall so low as to preclude shipments even when labor is obtained for nothing.

The Santa Clara Farmers' Club.

The Secretary of the Santa Clara Farmers' Club has sent us a copy of the Constitution and By-Laws of that Association, together with a full account of the steps taken in its organization. We have kept our readers quite well apprised of the latter, and as the former has already had a wide circulation in the local papers, it would hardly be expected that we should republish it at this late day. We give the following report of some of the remarks made at the meeting held for the purpose of a final organization:

At this meeting there was much interest manifested, and some common sense. Speaking after the hearty style of thinking and working men, and with direct application to our wants and needs. "It was thought that this Association of Farmers would be not only a great advantage to our own section of country; but its influence would also be felt throughout the State. We meet, not as idlers, but as working men who have something to do, and have mutual interests, and a heart in our work."

Our field is a grand one, and our opportunities for success almost without limit. With our past year of experience in agriculture in this State, we have, through some adversities and much success, learned to practice the ways of wisdom a little better than heretofore. We sow wheat to harvest mustard, and feed squirrels, and take chances on raising a crop, when we might and should be sure of success through a better management, etc.

We need protection quite as much as intelligence and enterprise. What are we working for? What doing? The profits of our labor, instead of improving and beautifying our homes, and making our families independent, contented and happy, are largely consumed in the useless extravagance of towns. We build up the cities, and enrich men who labor little, and live in palaces.

These men undertake to do our thinking, sell our produce, and make our laws. Let us act for ourselves, as we surely can do.

We all need a little elevating, as well as protection; and one of the best features about such an organization, as we have just completed, is the extra amount of thinking that we must do. Those who labor the best, should be the happiest, the most independent, and the most respected men in the land."

The above are only a few of the sentiments that were uttered by the speakers. By paying one dollar, any one can become a member of the Association, and it is expected that this institution will become a great and worthy one. The farmers are urged to bring their families to the rooms, which will always be open, and where the papers can be read, the market reports examined, the bulletin board scanned, whereon farmers will advertise their stock for sale, etc., and where samples of grain can be seen, and a general Farmers' Exchange will be established.

Meetings for discussion will be held every week, and it is expected that an occasional lecture will also be given. The Association met at the room in the rear of the Western Union Telegraph Company, on Saturday, when a very interesting discussion was held upon "The Best Method of Cultivating the Soil for Cereals." The debate was sustained with much warmth and vigor, and great interest manifested by the large number of auditors. Arrangements were made to rent the rooms permanently. Meetings will be held every Saturday at 1 P. M. One of the rooms will be fitted up and supplied with reading matter for the benefit of the farmers. The question for discussion to-day is "The Diversified Culture of Crops."

PREPARATION FOR DRYING FRUIT.—Gen. Bidwell is constructing, upon his farm in Chico, a new building, to be named the vinegar and dried fruit house. It is of large capacity, being 44x48 feet, and 22 feet high. The foundation is concrete, and the superstructure will be of the most solid architectural construction, being supported by heavy columns all over the building. It is to be hoped the General's example will be followed in other parts of the State, so that a larger proportion than usual of our surplus fruit crop may be saved this year by drying.

SCARCITY OF FARM LABOR.—The Vallejo Recorder of the 8th inst. says there is a dearth of laborers for the harvest fields in that quarter. Sherman Island farmers have offered \$1.50 per day without securing the number required.

AGRICULTURAL NOTES.

CALIFORNIA.

NOTWITHSTANDING the unfavorable condition of the crops in most of the great grain producing localities of the State, the farmers, even there, are by no means disheartened. The partial failure in such localities will not be altogether lacking in beneficial results. Improved systems of farming, and extensive and systematic plans of irrigation, it is now known will render those valleys independent of the vicissitudes of seasons, and under those circumstances the most uniform and productive of any lands in the State. Hence the most active exertions are now being made to effect the desired improvements in season for next year's exigencies. Our weekly summary presents many items of special interest to farmers and others.

IRRIGATION.—Notwithstanding the failure this year, says the *Colusa Sun*, we are glad to know that the people, instead of wearing an aspect of despondency, are remarkably cheerful, active and buoyant, with a determination that renewed efforts may not only result in success in the ensuing year, but from past experience lead them to construct a canal or ditches to communicate with the Sacramento river, by which they may be enabled to irrigate their lands when desired, and thus be independent of rains hereafter. It is a noticeable fact that wherever the Sacramento river has inundated the soil the crops are excellent, and such has been the result of irrigation this year everywhere throughout the State.

GOOD PRICE.—Grain in Pitt River and other neighboring valleys is now worth four cents per pound, and there is little prospect of its falling below three cents in those localities until after harvest.

IRRIGATION ON THE SAN JOAQUIN.—The *Fresno Expositor* of July 5th says: The San Joaquin and King's River Canal Company is employing every man and team that can be obtained and setting them at work on their canal; upwards of 100 teams are now engaged. The company is buying up all the hay and barley it can obtain in the county to feed its stock with. About one mile of the canal has been completed. Its dimensions are 40 feet in width at the bottom and at the commencement ten feet in depth, but as the work progresses the depth grows lighter, and it is thought that after the first mile the depth of the cutting will not exceed three feet.

Innumerable small and private enterprises of this kind are being started all over the State, wherever water can be run upon land liable to drouth.

CHICO.—The farmers in the vicinity of Pacheco are busy harvesting about three-fourths of an average crop. Some fields in the vicinity of Walnut Creek are said to be unexcelled, while in many localities the crops are an entire failure.

KLAMATH ITEMS—CRICKETS.—The *Jacksonville Times* has the following:—"On the 25th ult. a heavy frost killed all the potatoes and other garden vegetables, in Klamath Basin.

Black crickets are appearing in immense numbers, and are proving very destructive to the grain and all small vegetables excepting peas. They are so numerous that small creeks have become dammed with their dead bodies, and the stench is said to be awful. George Nurse's gardens have been destroyed to the extent of \$1,000 by them. They have not injured the grass yet, and stock looks well.

CROPS IN SISKIYOU.—The *Yreka Journal* says: Many of the farmers on Little Shasta and Willow Creek, have been losers of crops this year by crickets. Some of the fields of grain have been cut for hay, and hogs have been turned on others to be fattened. This cricket raid and the shipping of grain to Red Bluff is designed to make grain command a higher price this fall. The crops in Scott Valley were never better than they are this year, which is a good thing for consumers, as the demand incurred by crickets in Shasta Valley and the demand from below, would otherwise have made grain exceedingly scarce and high.

THE WOOL CLIP OF HUMBOLDT.—The *Eureka Signal* says the amount of wool shipped from the southern portion of the county, to San Francisco by way of Hookton and Eureka, will probably not fall much short of 120,000 pounds—an increase of perhaps 40,000 pounds over the clip of last year. The *Signal* thinks this

fact should encourage the establishment of a woolen mill in that vicinity. Our wool production, everywhere, should be manufactured, so far as possible, at the locality of its production.

NAPA COUNTY, according to the *Register*, will make a fine showing this season. The farmers are now very busily engaged in the harvest field, and have little time to visit town, except in case of absolute necessity. The prospect of a heavy crop of fruit and grapes in this valley was never more favorable. Many new vineyards will this year come into bearing, while the older vines will produce more abundantly than ever. There are no less than thirty-three vineyards in St. Helena, besides many in Yount township and Napa; and all, so far as we can hear, are thus far free from blight or disease. The quantity of wine produced will probably be double that of last year.

THE Marysville Appeal says the harvest is progressing finely at the North Buttes. The yield of that section will average ten bushels of wheat and fifteen of barley to the acre. The wheat, notwithstanding it is a light crop, is of very superior quality, being remarkably free from impurities.

CALISTOGA ITEMS.—The *Tribune* says that a gentleman is now on his way from Paris to Calistoga for the purpose of establishing a cocoonery, bringing with him a supply of worms. He is expected to arrive here in about two weeks. There are abundant facilities here for carrying on an extensive business in silk culture.

THE GRAPE CURE IN CALISTOGA.—The *Tribune* says: A short distance from Calistoga Springs is one of the largest and finest vineyards in the State, covering many acres, and filled with the choicest European and American varieties. This a favorite resort for the "grape cure," in the season, as practiced with remarkably successful results in Germany. Numerous complaints are known to yield readily to the persistent eating of ripe grapes. The guests wander at leisure through the immense vineyard, plucking the luscious fruit, and carrying with them to the hotel baskets loaded with white, crimson and purple clusters. The "Grape Cure" is decidedly popular in Calistoga, and finds very willing converts, being a remedy which, unlike many in the pharmacopœia, is not worse than the disease.

MR. JOHN N. BAILHACHE has the largest cornfield near Healdsburg, ever seen in that part of the State. The corn is large and thrifty. He also has the best fifty-acre field of wheat that we have ever put our eyes upon. The grain is of the red club variety, and stands very close and tall, being on the average, over five feet and a half high!

THE ORCHARDS AND VINEYARDS OF SACRAMENTO.—The *Folsom Telegraph* of the 8th inst., says: J. Routier, who owns a model orchard situated on the American bottom, about half way between Sacramento and Folsom, on the line of the S. V. Railroad, has sent to market during the present season, so far, five thousand pounds of rhubarb, ten thousands pounds of asparagus, and has for a number of days past, sent about two tons of apricots per day, to the Sacramento market. He estimates his crop of apricots at twenty-five tons, and this is but a small proportion of the fruit that will be produced. During the season he will have quantities of plums, nectarines, peaches, pears almonds, and in fact a choice variety of none but the best fruits grown in the temperate and torrid zones.

Bugbey's Natomy and Duroc vineyards promise an enormous crop this season, and in fact the same remark will apply to all the vineyards in the vicinity.

CROPS IN EL DORADO COUNTY.—The number of acres sown in this county, according to the *Democrat*, is small, but from present appearances will yield handsomely. Mr. Poteet, four miles from this city has in 25 acres of wheat and will harvest at least 30 bushels per acre. In the vicinity of Pilot Hill the grain, wheat and barley look splendid, barley particularly, there will be quite a large yield per acre. Between Pilot Hill and Greenwood all of the grain sown early looks fine. In Pleasant Valley the hay crop will be heavy and grain above the average. Above Smith's Flat, three miles east, the hay and grain look well; the same can be said of the fields between this place and Clarksville. The experience of farmers in this county proves that land, summer fallowed, ploughed deep and the grain sown early will in five years out of six bring good crops; and there are thousands of acres of excellent land now idle that will produce large crops if properly cultivated.—*Democrat*.

The grain and fruit crop in the vicinity of Placerville is turning out good. Grain growing upon land which has been summer fallowed could scarcely look better or promise a larger yield, and there are thousands of acres in that county that would do the eyes of some of the grain-growers down on the plains good to look upon.

CALAVERAS VALLEY.—The farmers in Calaveras are just commencing to cut their grain. Good crops of wheat and oats will be raised in the valley and on the hills. The prospects throughout the valley are not half so bad as have been represented. *Independent*.

MERCED.—The crops now being produced in the Merced river bottom, where farmers are provided with irrigating ditches, we think, ought to be satisfactory proof to every one of the incomparable benefits of irrigation upon the parched plains of the San Joaquin Valley. In Merced bottom a large number of men are engaged in the cultivation of corn, beans, potatoes, pumpkins, onions, and fruit and vegetables in endless variety, many patches of which are upon fields from which have been taken excellent crops of grain or hay this season; all of which are owing to the facilities afforded by a few small ditches for irrigation.—*Argus*.

TULARE COUNTY.—The *Visalia Delta* says that the result of the harvest in that section is such as to encourage those farmers who carefully till the soil, while it is directly opposite with others. Mr. Myers, on Lewis creek, raised a crop of wheat and barley without irrigation, after great diligence in herding, the result being 663 bushels of barley and 110 of wheat.

WORMS AND GRASSHOPPERS.—The *Tulare Times* of June 20th is informed that on the ranch of Mr. Joshua Bailey, a few miles east, the young cut-worms have destroyed seventeen acres of young corn. They attacked it on Wednesday, at which time it was growing thrifty and promising well, and on Saturday there was hardly a good hill left in the field, the whole seventeen acres having been destroyed in three days. We learn also that a single [singular?] worm has attacked a crop of potatoes, a few miles northeast of town, and were only prevented from committing similar ravages by digging a deep ditch around the patch in which they would crawl and be unable to get out. These worms seem only to move in the night, burrowing themselves beneath the ground during the day. A sharp lookout should be kept on these destroying angels, when they have made their appearance the ditching process should be adopted.

GRAIN IN TULARE.—The *Visalia Delta* of July 9th says: A gentleman who is engaged in cleaning grain with a thresher and has seen most of the wheat and barley fields of the county, says that the crop will average better, both in quantity and quality, than last year. He informs us that much grain is wasting for the want of machinery to gather and clean it; and for the same cause farmers have cut many promising fields for hay, resting safe on the high price of that commodity. There are only five threshing machines in the county that we know of, and these are run to their full capacity. Three of them are now within five miles of town.

ANXIOUS FOR THE RAILROAD.—The owners of land along the line of the proposed railroad are very anxious that it should be built, and offer free right of way and all necessary lands for stations, depots, etc. The farmers along the line are willing to turn out and put in their work toward the grading for mere cost of expenses.

KERN COUNTY.—The crops of Kern county look well, and nearly a month ago the grain promised a fine yield. At the Barnes settlement they are particularly fine.

THE GRAIN YIELD IN MONTEREY.—The *Castroville Argus* of July 8th, says: As threshing proceeds we begin to get returns of the yield of the crops. From De La Torre's ranch we hear that one large field has yielded a ton of barley, within a few pounds of forty-two bushels to the acre. This land is near New Republic. Thirty-five acres of volunteer barley on the Cooper ranch, just across the Tembleder from this town and owned by F. D. Hall, gives sixty-four bushels to the acre. From about twenty-three acres of barley on the Castro ranch, which was plowed to a greater depth than ordinary, Charles E. Williams gets over fifty bushels to the acre. William Baxter, we hear, gets something over sixty bushels of barley to the acre on his place adjoining the town. These are the reports already made to us, but we hear of crops that will, it is estimated, run over these figures, and we are sorry to say that on the Cooper ranch, in this vicinity, and in many places above it, there are

many crops not worth threshing, and some not worth cutting at all.

GRASSHOPPERS.—The *Monterey Republican* is informed that these destructive pests abound in countless numbers on the Corral de Tierra and neighboring ranchos, and are literally laying bare of vegetation the whole surface of the county in that section. They are also reported to be causing great devastation in the San Antonio county. Monterey and suburbs have so far been protected from these insect-pirates by our cold fogs and strong breezes.

SAN BERNARDINO.—The *San Bernardino Guardian* says that the farmers on Mill Creek Zanja boast of fine apple crops this year; in many cases they have been compelled to thresh them off the overburdened trees, to save them from breaking down with their weight. The grasshoppers have destroyed about one-third of the grape crop at the famous Cucamonga vineyard, in this county.

OREGON.

A VALUABLE HORSE.—The *Jacksonville Times* says that a Vermont colt, raised by Mr. McDonough, of that valley, was sold by him to Alex. Martin, for \$400; and by him to Mr. Swain, of Yreka, California, for \$600. Mr. S. has since sold him to a gentleman of this city, (San Francisco) for \$1,500. The *Times* claims that they have many such horses in that region.

BIG TREES.—The *Olympia Transcript* has an account of some big trees, one of which not three miles from the block house on the Chehalis river has fallen, and measures three feet in diameter at the butt, and 290 feet in length, and sixteen inches at 200 feet from the ground. A monster fir lying prostrate on the ground, which has just been measured in Pierce county by the surveying party, is eleven feet in diameter, and 310 feet in length; and in the field notes in the Surveyor General's office, is a section corner in township nineteen north, range eleven west, with two bearing trees, fourteen feet each in diameter.

HIGH WATER NEAR PUGET SOUND.—The streams flowing into Puget Sound from the Cascade mountains have been unusually high from melting snows, and some of the farmers have lost their crops.

THE CATERPILLAR PLAGUE.—The gardens, fruit trees and shrubbery in many places in Portland are infested with myriads of caterpillars, that are destroying the foliage and injuring the fruit. Among the several means recommended for their destruction, we are requested to mention that a cigar-box, perforated with small holes, filled with slaked lime, attached to a long pole and shaken over the tops of the trees infested with caterpillars, is a sure way of getting rid of them. Mr. James B. Stevens uses this method, and his trees are free from these and all other pestiferous insects.—*Era*.

MR. GREELEY DECLINES.—Mr. Greeley, having received an invitation, by telegraph, to deliver the annual address before the Oregon State Agricultural Society in October next, has replied that he will not be able to visit the Pacific Coast this year. Mr. Greeley will probably visit this coast next summer.

STATE LANDS.—Within a few days, says the *Walla Walla Union*, there have been large quantities of Oregon State Lands purchased in this valley, just across the Oregon line. That portion of Umatilla county lying in this valley will soon support a dense population and will be a very superior farming country.

LAND TRANSACTIONS in Linn county for the two weeks ending June 22d, amounted to a total of \$20,605. The largest sale was from John Nickles to E. R. Geary, of \$9,850.

THERE are now 200 claims located in Ochoco valley and the population numbers 500.

WOOL is coming into Salem in large quantities, and is quickly bought up. The woolen mills of that city will soon start up, when a large amount will be required to keep the factory at work.

WHEAT is quoted at \$1.25 per bushel in Douglass county. A grainary to hold 60,000 bushels has been erected at the Eugene City mills. There is a better prospect for wheat on the Long Tom than at any time before for ten years.

The *Guard*, of June 24th says wool is coming in freely and selling at 35½ cts. per pound.

THE HAY HARVEST in the Walla Walla Valley has commenced; but the crop does not promise a very large yield. Old Timothy meadows are short and thin; a large amount of grain is being cut for hay. In some localities the crops have been greatly damaged and beaten down by a late hail storm.

Farm Hints from Tuolumne.

A few of the ranchers here are beginning to try raising the "Morus Multicaulis," but as yet I have not heard of any experimenting in the raising of silkworms and silk culture.

The supply of vegetables is not so plenty as I have seen in by-gone seasons, yet it is sufficient for the home market and is of good quality. This branch of agriculture, in this neighborhood, is mostly carried on by Italians, and consists of the more common kinds of soup vegetables. The rarer kinds, such as asparagus, oyster-plants, egg plants, endive, etc., come from French Bar, situated on the Stanislaus and some miles south of this locality. I send you a plan for increasing the size of

"Rhubarb or Pie Plant,"

that may be novel to you; at any rate it was to me. After preparing some rich compost, plant your roots in it, covering to the usual depth, then take a flour barrel and having taken the two heads out set it over the plant, covering it carefully in the heat of the day, and after sundown with a piece of canvas or muslin. As soon as the plant appears above ground give it a handful of plaster of paris, leached ashes, guano, and bone dust equally mixed. In watering, let your water have the chill taken off, and water *outside* the barrel. The result will be to enlarge and enrich the stalk of the plant, and make it more juicy and richer than when raised in the common way.

A Curious Way to Raise Cabbage.

Take a large head of cabbage, strip off the outer leaf, and slip off the bud found at the root of the leaf. Take this bud and simply set it in rich dirt, like any other plant. The result will be a fine growth of early cabbage plants with heads, larger and sounder than can be raised in the ordinary way. I don't know whether this plan is new to you or not, but to me it was when I first saw it. This plan of raising cabbage is much practised in Iowa. Let some of your readers try it.

Can anyone give a specific against the mange, or lice in cabbage, *et id omne genus*? Kerosene will do if care is taken to apply it to every leaf, but it is too slow a process, and won't do except in a small garden patch.

Winter Cherries.

This very useful plant "*Physalis Alkekengi*," or common winter cherry, is not much known, but deserves to be more largely cultivated for not only its medicinal virtues, but as an excellent fruit for preserves. In all rheumatic, neuralgic, or gouty diseases it is extremely useful in relieving the pains, either in the form of pills, or in decoction. It is almost harmless, and an overdose is not likely to be taken in the form of pills.

In the form of a conserve it is excellent in all fevers. It is hardly enough to stand our winters easily. Can any of your readers tell where the seed can be obtained?

The "*Physalis Alkekengi*" is, like the tomato, of the family of the "*deadly nightshade*;" but, unlike the latter, instead of being the *foe* to mankind, it is a true *friend*. It is a good esculent for pies, preserves, jellies, and as table fruit. It is not much known in America, and has the same stigma attached to it that the Tomato had formerly, of being poisonous, and with the same truth.

THOMAS R. STODDART.

Salt as a Manure.

The use of salt as a manure is attracting considerable attention at the present time, and is provoking much discussion and experiment. H. L. Reade, recently said in the Farmers' Club at New York:—"Salt is destined to act no inconsiderable part in furnishing either directly or indirectly plant food within the next ten years. I have experimented somewhat with it, and am prepared to say that on light soils, especially if they are both sandy and dry, it is worth far more in comparison to its cost than any fertilizer I have ever used."

How and Where to Apply It.

Mix with what other material, and in what proportions must be determined by careful testing. Some of these experiments are now being tried, and I hope to be able later in the year to make a report. I would advise farmers everywhere to try salt both on potatoes and corn, and carefully note its effects. They will learn something valuable

themselves, and their knowledge may benefit others.

Mr. Whitney, the chemist of the club remarked that there can be no doubt that on all soils of a sandy character the use of salt will be found of great benefit, applied at the rate of from two to five hundred pounds per acre. It acts mainly as a chemical agent to dissolve silica, which is needed to give stiffness to the straw, and which forms an essential part of the hull of the kernel. Equal parts of nitrate and salt are found to be much better than the same weight of either alone.

Sown as a top-dressing on rauh pastures it reduces the quantity of herbage, but improves its quality, making the grass sweeter and more tender, so that cattle graze upon it with more avidity. It is a specific manure for mangel-wurtzel, but while it greatly increases the crop, it is thought by many that the nutritive properties of the root are lessened.

On the right kinds of soil there is probably no manurial substance that will pay a greater profit on the outlay; but on stiff clays and soggy lands little or no benefit can be expected from its use.

Its Effect on Soils.

If the soil contains an excess of organic matter I would treat it with lime before applying salt. The advantages of the use of salt are almost wholly apparent on sand, for the reason mentioned a moment ago, and I should say that on a peat soil the benefit would be slight. There is no doubt that salt dissolves many other matters besides silica, and helps to carry them into the circulation of plants with more readiness than the organic solutions commonly present in the soil. Salt differs from ammonia, potash, and other constituents of plant-nutrition in this that whereas ammonia, potash, etc., are assimilated and combined to form new vegetable matter, the salt in solution often circulates through the plant without being assimilated at all, and can be obtained by proper analysis as pure as when it was applied to the ground, having undergone no change whatever.

When Used for Cereals,

Such as wheat and rye, unless mixed with nitrate of soda it does not show any especial advantage. Nitrate of soda is now imported in such quantities and may be sold so cheaply that its use may be made quite general.

Experiments Needed.

A series of original experiments with salt, used by itself and in combination with other manures, would be of great value if their results were accurately observed and recorded and made public through the Farmers' Club. Let a dozen farmers in different parts of the country each select three or four pieces of land a few rods square and having a light loamy or sandy soil. Manure one with a given weight of salt alone, another with salt and ashes, another with salt, lime, and plaster, another with salt and barn-yard manure, and another with salt and nitrate of soda. Note down the general appearance and growth of the crop. Weigh the straw and chaff, and the same with the grain, and send the results to the chairman of the club. This will give facts which are always needed to confirm the scientific principles of agriculture.

The Barrel Culture for Melons.

The plan recommended is to take a tight barrel or cask, remove one head, and partially fill the barrel or cask with large pebbles or stones, say half full; upon these stones place a mixture of compost with rich alluvial soil, or fine fresh vegetable mold, until the barrel or cask is filled within three or four inches of the top; in which plant the seed and cover to the requisite depth. This barrel or cask may be placed in any convenient situation where sufficient room or space can be obtained, and around which arrange lattice work or brush to sustain the out-spreading plants in whatever manner may be found most convenient for affording success at all times to both the barrel and the plants.

Upon the outer side of the cask insert a pipe of convenient size, through which water may be introduced to the lower or under half of the cask daily, or as often as occasion may require; this portion of the cask should be kept constantly filled with water. Midway of the cask the staves should be perforated with several half-inch holes, for the free escape of any surplus water and at the same time to permit the admission of an equal distribution of air; this purpose would be better accomplished if the holes were bored upon a line at equal distances apart around the cask.

The effect of this arrangement, as will be

readily seen, is that through the capillary attraction of the soil sufficient moisture is absorbed at all times to nourish the plants, while the admission of air can be controlled at pleasure by opening or closing the apertures upon the sides of the cask.

As to the production of cucumbers alone, under this plan, it has been found to greatly exceed any other; the yield, under proper management, from one "generating tub," has been found amply sufficient to fill a closely packed barrel with salted pickles.—*Moore's Rural*.

Santa Cruz Farmers' Club.

(Reported for the Press by ROGER CONANT.)

The club met at the court house in Santa Cruz, on Saturday afternoon, July 1st.

The report of the committee on grasses was called for.

Mr. Morgan.—I have no doubt but that the alfalfa will thrive in low lands, where there is sufficient moisture, but not here among our hills.

Mr. Cahoon.—My experiments in growing the alfalfa have not been successful. My great difficulty is with the gophers, which have cut many of the stalks close down to the ground.

Mr. Mattison.—About the time that Mr. Nichols lived with you, did the alfalfa sown on the hills amount to anything.

Mr. Cahoon.—No, nothing.

The committee were discharged from a further consideration of the subject, and a motion was also adopted that the club hold its meetings hereafter at the office of the librarian, Mr. Conant.

The committee on books then made their report, presenting a large list. The remainder of the session was taken up with a discussion of their merits, after which the club adjourned to the second Saturday of July.

There was a great deal said in the meeting which has been omitted, as of no interest to the readers of the Press.

Growing Alfalfa.

Eds. Press:—In your paper of July 1st, you allude to "Irrigation in Yolo;" also to the growth of alfalfa. Having had some experience in raising alfalfa, and believing that there is a little error mixed with the general truth contained in your article, headed "Irrigation in Yolo," I presume you will excuse me for trying to correct this error.

You say that the clover is just coming into blossom, and will yield from four to five tons and a half to the acre, with a growth of only three months. The amount of hay that will grow in three months, as stated by you, I believe to be correct; but the ground should certainly be mowed twice within that time. I have a twenty acre piece of clover ground that I am using for hay. It was pastured till the fore part of April, then irrigated. I commenced cutting the first crop on the 16th of May. The clover was heavy and considerably lodged before we finished cutting. The yield was estimated at fully three tons to the acre. On taking off the hay the ground was again irrigated, and on the 26th of June I commenced cutting the second crop. The hay is finer and better, but the yield less—say from two to two and one quarter tons to the acre.

Without further irrigation, I expect to cut the third crop of hay about the middle of August next, which will yield about the same as the second crop, after which there will be a plenty of time for a crop of seed to mature, and plenty of moisture in the ground to mature it. My former experience warrants this conclusion.

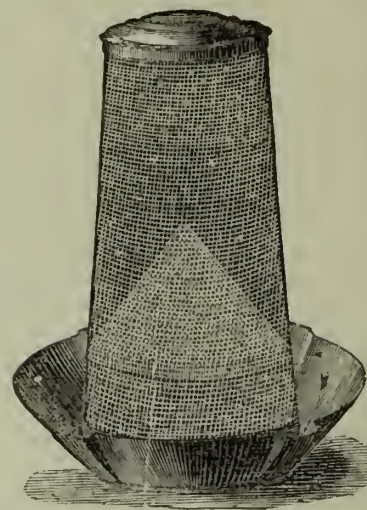
E. GIDDINGS.

DRIED PEARS.—We recently observed in the New York markets, large quantities of pears, dried whole, with the exception of the cores which had been taken out, by machinery. They were prepared in Germany and are sold at a low price in the Eastern markets. It is said they are much liked by the consumers. They are dried in a short time in a moderately heated oven. We hope our California orchardists will take the hint and not allow their luscious pears to rot on the trees in the future without experimenting with the process, so successfully carried on upon the old continent.

A Patent Fly Trap.

The simple device herewith illustrated is the invention of Mrs. Farnan, of Indiana, and is known as the "Hoosier Fly Trap." It was patented January 31st, 1871, and is one of the list of useful devices of which it may be truly said, that "necessity is the mother of invention," for we are quite sure that the lady patentee was vexed by both the troublesome flies and the unsatisfactory appliances for destroying them patented by male inventors by the thousand, all of which had failed of entire success.

The device is very simple, as our cut shows. Its base is merely a tin dish with several corrugations formed in the rim, so that when the round wire screen is set into it, openings are left for the flies to enter, as shown near the arrow point. The bait is placed on the bottom in the center, and the flies attracted in, after eating, naturally fly upward towards the light, and pass through the small opening at the apex of the inner cone into the outer cylinder and are trapped effectually, and may be "mercifully destroyed" by boiling water, or



THE HOOSIER FLY TRAP.

they may be mashed or starved to death at the pleasure of their captor. Over one quart at a time have been caught by the patentee for this State, T. B. Hopkins, No. 244 Sixth street, in this city. Several thousand of the little pests may thus be hived in a batch.

For bait, bread soaked with sugar and milk will answer, but it is more attractive when lager beer is used with sugar or molasses. The best bait, however, is considered to be sawdust mixed with molasses and lager beer, and we would advise all humanitarians to give the flies their choice for their last meal. The trap is retailed at the reasonable price of \$1.25, or four for \$5, and at favorable rates to dealers. It may be had at the number above stated, where rights for territory in California are also for sale. In Sacramento the traps may be had of T. J. Alley, agent.

HEALTH OF FARMERS.—There are seven reasons why farmers are healthier than professional men, viz:

1. They work more and develop all the muscles of the body.
2. They take exercise in the open air and breathe a greater amount of oxygen.
3. Their food and drinks are commonly less adulterated and far more simple.
4. They do not overwork the brain as much as professional men.
5. They take their sleep during the hours of darkness, and do not try to turn night into day.
6. They are not ambitious and do not wear themselves out so rapidly in the fierce contest of rivalry.
7. Their pleasures are simple and less exhausting.

A CURIOUS FACT.—Curious are the means of self-defence with which animals and insects are provided. A butterfly never, when apprehending danger, lights on a green tree or shrub, but flies into a clump of dead leaves, and so adjusts its wings on a twig as to look exactly like a shriveled leaf, and defies discovery by its foe.

New Publications.

HORSE TRAINING MADE EASY.—A New and Practical System of Teaching and Educating the Horse. Beautifully illustrated with 44 engravings. Whip Training. By Robert Jennings. To which is appended an Essay on Shoeing; also the Symptoms and Treatment of the Diseases of the Horse. Philadelphia: John E. Potter & Co.

The art of training horses has, until the last few years, been attended with much cruelty and bad management. The Rarey system gave a new impulse to the minds of horsemen, but this is here objected to as a system of subjugation and exhaustion, often resulting in breaking the spirit of the animal. But the method here proposed is one of education, teaching the horse what is required of him, but not trying to force him to do that which he does not comprehend.

The system of training a horse to drive without bridle, bit or reins, guided simply by motions of the whip, is original, and has been highly endorsed by several societies.

The important matter of shoeing horses, so open to error, is carefully treated in a most intelligent manner; and the directions concerning diseases, and the full history of *Glanders*, will be found most instructive.

THE HORSE AND HIS DISEASES.—By Robert Jennings, V. S. To which are added Rarey's Method of Taming Horses, and the Law of Warranty as applicable to the purchase and sale of the animal. Illustrated by nearly 100 engravings. Philadelphia: John E. Potter & Co.

DISEASES OF THE AMERICAN HORSE, and Cattle and Sheep. Their Treatment, with a list and full description of the medicines employed. By Robert McClure, M. D., V. S. With numerous illustrations. Philadelphia: John E. Potter & Co.

The subjects of which these two volumes treat, have been discussed in many a publication. But old methods are continually going into disuse and a new era of more humane and judicious medical treatment is dawning upon us. New light is being thrown upon the diseases of the horse, and consequently much progress is being made in the treatment thereof.

The first of these two works is the more general in its scope, embracing the history of the horse, breeding and management, method of training, vices and diseases. The second confines itself closely to the diseases, treatment, and description of the medicines; so that they supplement one another. The authors are eminent authorities, and their works are calculated to occupy an important place in the libraries of those who own the noble animal. The latter volume treats also of diseases of cattle and sheep, and therefore comes home to a very large number of residents on our coast.

PATENT LAWS and Practice of Obtaining Letters Patent for Inventions in the U. S. and Foreign countries; including Copy-right and Trade-Mark Laws. By Charles Sydney Whitman. Washington: W. H. & O. H. Morrison. 1871.

This work is the result of an endeavor to compile from various sources, some of which are not easily accessible, reliable and practical information. Although intended to convey such information to inventors, patentees, manufacturers, and others who have occasion to inform themselves particularly concerning patent matters, it will be found useful also to lawyers generally, as it sets forth the state of the law resulting from the latest decisions, and contains the exact text of the late Act of Congress, by which the entire legislation in respect to patents and copy-rights was repealed, and a more complete and carefully-drawn law substituted.

THE AMERICAN RAILWAY OFFICIALS' MANUAL, containing valuable information for Railway Superintendents, Master Mechanics, and Engineers. Coyne & Relyea, Chicago. 1871.

This work contains many valuable tables, extracts from technical journals and other matter of interest for the profession, such as is needed for frequent reference.

MECHANIC ARTS COLLEGE LECTURES.—The lecture, last week, was a repetition of Prof. Swinton's most interesting remarks on "War Correspondents." Having given one report of the lecture, we give none today, although the subject is most inviting. Next week there will occur the concluding exercises of the course, when, it is to be hoped and expected, a large number will be present.

The *Colorado Miner* asserts that smelting works will be erected at an early day at or near Golden.

LIEUT. WHEELER'S EXPEDITION.—The *Eureka Sentinel*, of June 15th, says: Some days past Lieut. Wheeler's party has been camped above here. The Lieut. came into town on Saturday last, and has moved the whole command south, on the road to Belmont, where he will be met by Dr. Cochran and the party that has been staying a few days at Austin. At Belmont they will be joined by Lieut. Lockwood, of Arizona, and Lieut. Lyle, of Alaska, when they will again divide, and Lieut. Wheeler's party will go through Death Valley, and another party, under command of Lieut. Lockwood, will take another route and meet again at Independence, California. When united they will start for the Colorado. At that stream they will take boats and go up, while Major Powell is going down, and they will probably meet at some point. When his explorations of the Colorado have ceased, he will go through Arizona, and return by water to San Francisco.

THE VALUE OF SAFETY CAGES.—Last Monday afternoon, the Crown Point cable broke while a carload of ore was being hoisted, and just as it had reached the 1,000-foot level. The cage, being provided with McMartin's new safety gear, did not fall over three-fourths of an inch, though besides the weight of the car and ore, the weight of one thousand feet of cable had to be sustained, as when the break occurred this number of feet fell down the shaft and lodged upon the cage. Not long since a miner was ascending the Yellow Jacket shaft, supporting on the cage along and heavy stick of timber. When half way up, the top of the stick on the cage caught in the cross timbers of the shaft, when the cable pulled out from the eye in which it was fastened to the top of the cage. Had the cage been one of the old-fashioned kind, it would have dropped hundreds of feet to the bottom; but being one of the safety pattern, it did not fall a single inch, but remained suspended midway between the top and bottom of the shaft, like the coffin of Mahomet, with the miner perched upon it in a situation more comical than dangerous.—*Territorial Enterprise*, June 29th.

PLATINUM.—The *Los Angeles Star* is to be held responsible for the following: A party of three persons started out in 1860, prospecting in the region of the Bitter Springs. They met with little success, but when on the point of returning, discovered what was supposed to be a silver mine. A load of the rock was shipped to Los Angeles, and was, on being assayed, proved to be platinum, worth more than gold. Many inquired whence came such riches, none would answer the question; \$50,000 was offered for an interest, and refused. Two of the party, after proving their first load of rock, and while en route for their location, through some unaccountable means, took ill and died. The third dropped the matter, went to St. Louis, died there, but left his secret to a merchant, who has recently started out from Los Angeles in search of the mines. He values the discovery at a million of dollars, but platinum mines, such as this reports to be, have never been discovered.

ROCKY MOUNTAIN COAL FOR GAS.—The experiments made by the Gas Company in this city with the Rocky Mountain coal show that it is not yet sufficiently solid to be profitably used here in the manufacture of gas. The last lot tried, however, exhibited such a marked improvement over the first, that there can be no doubt but that when a greater depth has been attained upon the vein, the coal will be almost if not quite equal to the Scotch canal coal. The first lot of Rocky Mountain coal tried yielded 3,300 feet of gas per ton, and the last 4,600—a wonderful improvement. The yield of the Scotch coal is 7,500 feet per ton. The Gas Company are now using at their works the Scotch coal, mixed with pitch pine wood. When the Rocky Mountain coal has acquired such a degree of solidity as not to slake or crack open upon long exposure to the air, it is thought that it may then take the place of the Scotch coal, as, if not quite so good, it will cost less delivered in this city.—*Territorial Enterprise*, June 30.

The bamboo fibre, it is said, can be prepared so as to produce a good imitation of wool. The manufacture of Canada thistle into ropes and textile fabrics is reported to be soon attempted on a scale which will settle the practicability of the process.

GOOD HEALTH.

Poisonous Vegetables.

There are many beautiful and innocent-looking forms of vegetable life to be met with in our gardens and hedges, which are yet full of deadly poison, while others, from their close resemblance to nutritious articles of food, are often partaken of by mistake, and fatal accidents are consequently of too frequent occurrence. Warnings and information upon this subject ought to form part of the instruction of every school-mistress, in order that children may learn to avoid them.

Monk's-Hood.

Or aconite, is a tall plant with dark green leaves and a curious hood-shaped flower, which ought never to be allowed entrance to a garden. So many deaths have occurred from the use of aconite as a medicine that it has fallen into disrepute, one drop of the tincture causing death; but it is still extensively used in homœopathic practice; the minutest doses of it have, it is said, an instantaneous effect in lowering the pulse and reducing fever. The young leaves and old roots have a very close resemblance to horse-radish, for which it is often mistaken.

Parsley.

A species of hemlock, called fool's-parsley, is exceedingly poisonous, and when this weed springs up among plain-leaved parsley it requires close observation to distinguish the difference.

Buttercups

Are poisonous: they are so caustic that children's hands are sometimes inflamed by them. The poison disappears in drying, and they are harmless when mixed up with hay, and even nutritious, as their stems contain a good deal of mucilage.

Laburnum

Seeds are highly poisonous. Three little girls in Hertfordshire gathered and ate some of these seeds: two died that night, the third only recovered after a lingering illness.

Night Shade.

Half a berry of the dark purple fruit of the deadly night-shade has proved fatal.

Belladonna

Is also highly poisonous; strangely enough these two plants belong to the same species as the potato, and it is in the fruit, answering to the potato-apple, that the poison lies.

Henbane.

The roots of henbane have frequently been used in soup for parsnips. Their poison produces delirium and stupor.

Fox-Glove.

Though, like many other poisons, a valuable medicine in the doctor's hands, is fearfully dangerous when ignorantly used, and had better not be meddled with.

Daffodils.

Even the odor of daffodils and lilies is apt to cause headaches, and infants have been made very ill by swallowing little bits of the flowers, and also those of the jonquil and snow-drop.

Laurel.

The leaves of the common laurel are highly poisonous, and produce death in a short space of time. The taste and smell are very similar to bitter almonds, and in fact it is the same principle in each, that of prussic acid. Although a small quantity is harmless to some constitutions, others are powerfully affected.

Yew Berries.

The beautiful waxy berries of the yew, with their sweetish taste, are very attractive to children, and many fatal accidents have thus occurred.

Arum.

The wild arum, that strange-looking plant with its dark, coarse looking leaves, and its long, large greenish flower, contains a very irritating poison, which resides principally in the leaves.

Mushrooms.

Many accidents occur from mistakes as to the right kind of mushrooms to be gathered for use. The bright-colored ones are generally suspicious. The mushrooms proper to be used in cookery grow in the open pasture land, for those that grow near or under trees are poisonous. The eatable mushrooms first appear very small, and of a round form, on a little stalk. They grow very rapidly, and the upper part and stalk are white. As they increase in size, the under part gradually opens, and shows a fringed fur of a very fine salmon color, which continues more or less till the mushroom has gained some size, and then turns

to a dark brown. These marks should be attended to, and likewise whether the skin can be easily parted from the edge and middle, and whether they have a pleasant smell. Those which are poisonous have a yellow skin, and the under part has not the clear flesh-color of the real mushroom; besides which, they smell rank and disagreeable, and the fur is white or yellow.

A French physician maintains that all mushrooms may be used as food, provided those that are reckoned poisonous are cut in pieces and washed in *nitric acid* and *water*, or, when this cannot be had, in *strong brine*. When thus prepared, he allowed his family to eat all varieties of mushrooms.

It is a useful lesson to impress upon all children and young people never to eat of any unknown plant or fruit unless they receive express permission to do so from those who are competent judges.

POISONOUS CARDS.—A letter from Bavaria to the *American Journal of Pharmacy* mentions the introduction into the German states of a visiting card, which, because of its resemblance to "mother of pearl" has been greatly admired. After being tested by a medical professor, it has been found a soluble salt of lead, a very poisonous substance. The public not being acquainted with the poisonous properties of these cards, will not be on their guard in preventing their being chewed or eaten by small children, to whom the *sweet taste* (of the lead salt) and the crystallized appearance will form an attraction, thereby producing obscure cases of illness and poisoning. The inventors of such deleterious articles deserve, if not punishment, public censure for thus placing the health of human beings in jeopardy.

CURE FOR A COLD IN THE HEAD.—Dr. Paillon, of France, announces what he considers a new method of curing a cold in the head. It consists in inhaling through the nose the emanations of ammonia contained in a smelling-bottle. If the sense of smell is completely obliterated, the bottle should be kept under the nose until the pungency of the volatile alkali is felt. The bottle is then removed, but only to be reapplied after a minute; the second application, however, should be long, that the patient may bear it. This easy operation being repeated seven or eight times in the course of five minutes, but always very rapidly, except the first time, the nostrils become free, the sense of smell is restored, and the secretion of the irritating mucus is stopped. This remedy is said to be peculiarly advantageous to singers.

A HEALTHFUL SUBSTITUTE FOR TEA.—As a healthful drink, in place of tea, Dr. Thompson, in a late work of his, recommends the use of the dried leaves of the red raspberry. They cleanse the system of canker, and thus act beneficially to the health. The leaves should be gathered on a warm day, and may be spread in a good airy chamber, on clean boards or papers, to dry. When sufficiently dry, they may be kept in sacks. A small handful is sufficient for several persons. This tea does not require the addition of milk or sugar, and is quite as pleasant as other tea, and much cheaper and healthier.

A USEFUL REMEDY.—A correspondent of the *Country Gentleman* says that tincture of arnica will cure oak poisoning, rapidly and completely, and that there is nothing better for healing wounds, bruises and sprains in man or beast. It will instantly stop the pain from the sting of a bee or wasp. For wounds it should be diluted with water. To make it, get two ounces of arnica flowers from a druggist, and put in a bottle with one quart of alcohol.

TOMATOES AND HEALTH.—A correspondent calls our attention to the attack recently made by a well-known writer on the use of tomatoes as an article of food, and asks our opinion. We answer: The writer gives no facts in support of his opinion. On the contrary, the experience of the public has thoroughly tested and proved their value. Don't eschew tomatoes.—*Home and Health*.

WHY LADIES ARE SELDOM BALD-HEADED. The ladies notwithstanding they wear long hair, (which is more likely to fall out,) seldom are bald-headed. Their heads are not kept closely covered. In sleeping, do not cover the head with a night-cap. Keep the head well *ventilated*; if the hat is close, raise it often and let in the fresh air; never wear the hat indoors.

Hall's *Journal of Health* says a sixpenny sandwich, eaten leisurely in the cars, is better for you than a dollar dinner bolted at a station.



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SAN FRANCISCO:

Saturday, July 15, 1871.

Our Weekly Crop.

The appearance of our chief agricultural editor, as he walks out to greet our friends on a Summer Eve, on his pleasant mission of conducting them around the ranch, is well depicted in our first page illustration this week. With his love for Nature, he has taken a path which leads through pleasantly wild scenes, and has avoided the bridge over the stream, which can be traversed by those who are not able to skip from stone to stone, as is necessary in the particular spot shown.

Our editor conducts you, kind reader, first to the silk factory, to show the Improvements in Silk Manufacture. Then he passes to the Library of Mechanical and Scientific Progress, to point out the novelties and discoveries of the day. He shows you letters concerning Ageing Wine, Water Pipes for Domestic Service, Ocean Travel, Crops in Tulare County, which express views and give information on these topics. He reads to you a Lesson for the Season, which will be profitable, it is to be hoped; puts the Auburn Horse through his paces for your edification; gives a report of the Santa Clara Farmers' Club; and then jots down for you the Agricultural Notes of the week.

Farm Hints from Tuolumne are brought to your attention, and explanatory remarks are given on the Use of Salt as a Manure and on the Barrel Culture for Melons. A short report of the Santa Cruz Farmer's Club is presented, and an article on Growing Alfalfa. The working of a New Fly Trap is shown practically. A criticism of several New Publications and a few notes of the day are written out for your use. With a tender regard for your Good Health, a number of Poisonous Vegetables are pointed out, and various hints dropped here and there.

Our editor notices the Resignation of the Commissioner of Agriculture, timing his remarks so as to pass a potato field at the right season for showing some New Varieties of Potatoes, and crossing the stream so as to ask you to Beware of Pickerel.

He gives you a List of Patents and a few Notices of Recent Inventions for future perusal. He reads notes from his brother-in-law about Scenes on a Trip Eastward. He culls a description of a Wonderful Cavern, asks his Nevada acquaintances to see if they cannot improve the Wild Peach of their State, and fills up gaps in the conversation with interesting little items.

With a feeling of pride, he introduces you to his sisters of the Home Circle, and shows you a Column of Little Folks. In the well-ordered kitchen, you are given lessons in Domestic Economy.

From the Kitchen you are led to the Orchard, and are given the views of one who was the Chief Magistrate of our nation, on Thorough Farming. You hear a song, Out of the Old House into the New, as you bid your guide farewell. We hope that you are satisfied, at least, with your conductor, and that he has managed to mingle the instructive and the pleasing in rightful measure; for if he has not succeeded we shall have to discharge him, which, however, we should be sorry to do.

Resignation of the Commissioner of Agriculture.

Hon. Horace Capron, Commissioner of Agriculture, has tendered his resignation, to take effect August 1st. Gen. Capron, some two months ago, entered into a contract with the Japanese Government, through the Commission sent to this country for the purpose of introducing into Japan the industrial ideas of American civilization.

In carrying out this contract the General will proceed early this fall to Japan via San Francisco. He is already busily engaged in collecting models of agricultural, manufacturing and railroad machinery, and all sorts of domestic furniture and equipment, with which to illustrate to our Japanese neighbors all the phases of American life—business, social, and domestic.

He will also take with him a geologist, civil engineer, and other members of a corps of scientific and industrial investigators.

Prof. Anderson, of the District of Columbia, chemist of the Agricultural Bureau, will accompany Mr. Capron as geologist of the expedition.

Prof. Pool, of Pennsylvania, also joins the party as geologist and acting special engineer.

Gen. Capron will receive a salary of \$20,000 per annum. His mission is not only one of high dignity, but also of inestimable influence in the present crisis of the world's civilization. His mission is strongly endorsed by President Grant and Cabinet, as one of the utmost importance, not only to Japan, but to the United States as well. His task is nothing short of a reconstruction of Japanese productive industry.

The selection of an American citizen to take charge of such a commission, is highly significant; and when considered in connection with the recent Burlingame Commission from China, shows most conclusively that the Oriental nations fully recognize our people as standing at the head of progressive civilization and industry. Hence it is that they naturally look to the United States for the brains which are necessary to enable them to take the forward steps for joining themselves to the march of progress, rather than stand still like other heretofore non-progressive nations, until they shall be completely trodden out by the onward progress of superior races.

The Washington *Chronicle*, in alluding to the matter, comments as follows:—"One of the first results of this movement will be a great enlargement of our trade with Japan, and a great increase in our manufacturing operations, especially agricultural implements and machinery."

The ultimate consequences who can tell? Civilization in its westward progress has now belted our Northern hemisphere. What will become of the stereotyped Oriental nations when once it leaps the Pacific and sets foot upon the soil of Asia? Will they waste away before it like our own aborigines? The history of China and India, during the last 300 years, might seem to warrant this supposition. The Japanese nation has apparently learned this lesson, and is fortifying against it; instead of allowing itself to be crushed by the march of progress, it proposes to keep step with it. Humanity will wish it abundant success."

Japanese Persimmons.

The Department of Agriculture at Washington, is cultivating 75 persimmon trees brought from Japan by Capt. Ammen. They were taken overland from San Francisco, and although they met with a delay of three days in our custom house, every tree lived and appeared to be thriving when we saw them recently. This fruit in Japan is said to be equal in size to apples and superior to our American persimmons.

New Varieties of Potatoes.

We last week made brief reference to several new varieties of potatoes which have been submitted to our inspection by Mr. A. D. Pryall, of Oakland. Mr. P. has been engaged in his experiments about six years, and out of quite a number of new varieties obtained he finds only two which show any decided characteristics of value and permanence. Both are white, with skin of beautiful and delicate texture. The chief characteristic of one of the varieties is found in the fact that its "eyes" or germs "stand out" from the level of the tuber, occupying a protuberance rather than a depression. This tendency is considered an important desideratum in any potato, and it is without doubt one of the permanent features of this new variety.

He who improves on any of the great necessities of life is said to be a public benefactor and deserving of a rich reward. To all appearances Mr. Pryall has earned the reward, and we are mistaken if he does not obtain it when he puts his new California tubers in the market.

Mr. P. has set an example in the application of science to Nature in the way of utilizing her laws for the benefit of man which we trust may find many imitators on the Pacific Coast, where, according to every received opinion, the climate and soil affords unequalled opportunities for such experiments, and where both honor and profit await all who diligently engage therein.

We may here remark that Mr. Pryall is also engaged in producing new and improved varieties of the rose; and that he already exhibits several new hybrids of this queen of flowers.

It is held by some that all varieties of fruit and vegetables eventually die out, by natural decadence, and that the only way to keep up good varieties is to produce new ones; the life of the potato, according to this theory, is about 14 years. This, we believe, is the opinion of such eminent agricultural writers as Prof. Johnston, and the late Prof. Knight, late Superintendent of the Kew Gardens, London.

This, however, is a mooted question, for there are many who point to well known varieties of fruit and tubers which have maintained their permanence for very great lengths of time, manifesting no symptoms whatever of deterioration. Be this as it may, no one pretends that we have reached anything like the utmost limit in the improvement of any of Nature's productions.

It is a matter of regret that none of our Agricultural Societies on this Coast have ever encouraged experiment in this direction by the offer of premiums for new and valuable varieties of fruit, etc. Such an offer would doubtless turn the attention of many in that direction, and could scarcely fail to be productive of much good.

To show what is being done in this direction in other States, and counties even, we notice that the Worcester (Mass.) Agricultural Society, in their premium list for this year, offer no less than \$200 in cash for the best new seedling potato.

A Good Move.

Messrs. Vale & Warner of the S. F. Employment Office, 230 Sutter street, are seriously at work getting immigrants who will go to work on farms. It is difficult to find persons in the city who are willing to accept such situations. Messrs. V. & W. have a branch office in Scotland and propose establishing one in England, and their efforts are directed mainly to getting farm laborers, a class which we need most of all out here. They can draw from a healthy and industrious population, and we wish them success. Mr. Vale informs us that he will have here, before next Christmas, one hundred good farm hands. Such an institution as his is capable of doing our coast a very great benefit.

Beware of Pickerel.

It having been stated that the California Acclimatization Society was about to introduce pickerel raising on the Pacific coast, a writer in the *German Town Telegraph* warns our folks against taking such a mis-step and cites some very good reasons why we should be thankful that this sharp and voracious thief has not introduced himself to our waters. He says:

"Like other noxious animals, it is apt to obtain a preponderance in localities foreign to its habitat as established by nature, that will be extremely disastrous to all its associates."

In one species or another the pickerel has numerous representatives in the United States; and in the waters of the west coast is met with plentifully in the Youkon river. As far as is now known they are entirely wanting in all other tributaries of the Pacific Ocean, as well as the waters of the great basin. Elsewhere in North America they occur abundantly—in the British possessions and throughout most of the United States, although they are not recorded as found in the Mexican gulf rivers west of the Mississippi. They are, however, everywhere, small isolated systems of water to which they are not native, but where trout are frequently found instead. Where they occur, as among the earliest aboriginal inhabitants, so to speak, a certain balance of power has been established between them and the other fish, by which an average ratio of number is maintained without much change year by year, the efforts of sportsmen to take them being entirely to the advantage of the other species. The ease, however, is different when they are transported to waters previously uninhabited by them. Here they come in as a disturbing element of great moment, and it is not long before their presence is felt in the rapid diminution of nearly all the other inhabitants of the water. Probably, after a long interval, by the process of natural selection, an equation will be established by which they will be prevented from undue multiplication; but this will require many years, the duration of which is probably to be counted by centuries, or perhaps even thousands of years, and we therefore earnestly advise our California friends to be extremely cautious as to what they do in regard to the introduction of pickerel. The tendency of legislation in the East is to encourage as much as possible the extirpation of pickerel from the fresh waters where they are found, in order that the proper room may be left for the increase of the better species."

The fish commissioners of the several New England States heartily condemn the pickerel and recommend various means of getting rid of them—considering them the most ruthless destroyers among all fresh water fishes, and in most waters their advent is a misfortune. Legislation against their introduction is advised. The introduction of masellonge, pike, sun fish, bream and yellow perch into waters where they do not exist is also decidedly discouraged.

Dr. E. L. Sturtevant tried the gormandizing capacity of two young pickerel by placing them in a 5-foot trough with a lot of minnows one inch long. They ate 128 minnows the first day, 132 the 2d, and 150 the 3d; lengthening themselves one inch in 48 hours. "Mere machines for assimilation of other organisms."

Among others in the East who deprecated one of the first steps announced to be taken by our Acclimatization Society, we met with Mr. Benj. F. Bowles, of the Springfield, (Mass.) *Republican*, a gentleman who is bestowing considerable personal attention to fish breeding, and who expressed much interest for the success of all new enterprises of the sort for the Pacific coast. He is down on pickerel, too! We did not ride after neighbor Bowles' fast horse, when invited, but followed his, (Ben's) advice to visit Col. Thompson's trout farm in west Springfield, and will report it another week.

TO CORRESPONDENTS.—We have quite a number of communications and queries on hand, which we will endeavor to attend to next week—among them some notes from Mr. Hoag, at Salt Lake City.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING JUNE 27TH.

IRONING AND STRETCHING BOARD.—Jacob W. Davis, Reno, Nev.

VEHICLE.—Clark Elliott, Woodland, Cal., assignor to himself and Nathan Elliott, same place.

PUNCHING-MACHINE.—Daniel Anderson Faulkner, Centerville, Cal.

FURNACE FOR ROASTING ORES.—Frank Kessler, San Francisco, Cal.

CHURN.—Thomas Bee Parke, near Downieville, Cal.

PORTABLE POWER-PRESS.—Thomas B. Wait, Zena, Oregon.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

LAMP.—M. Samuels, S. F. This is one of the class of lamps known as fountain lamps, in which the oil is contained in a vessel surrounding the burner tube so as to provide a fountain from which the oil is fed by connecting tubes to the burner. This invention consists in so connecting the fountain with the central vertical oil tube that a free and open space will be left between the two at all points. It also consists in surrounding the vertical oil tube with an outer tube, so as to leave an air space between the two. The burner is secured upon the outer tube, while the oil is contained in the inner one, and the latter, by this construction, cannot become heated and therefore all danger of explosion is avoided.

MOP HEAD.—J. Brizee, Alvarado, Cal. This invention consists in employing strong wires or rods which are secured to the mop handle and bent so as to lock over one another and bind the mop cloth between them. Another wire is arranged to slide upon these so as to hold them tightly or to release them. The device is very simple, cheap and durable.

ROASTING FURNACE.—J. S. Akin, Rye Patch, Nevada. This is a furnace designed to effect the oxidizing or chloridizing roasting of ores in a quick and comparatively inexpensive manner. The inventor has spent considerable time and money in perfecting the construction and claims to have arrived at satisfactory results.

BRANCHING CORN.—Mr. Call (of the well known tool-manufacturing firm of Bemis & Call, Springfield, Mass.), recently called our attention to a stalk of branching joint pop-corn, presented to him by the original propagator of the species, Mr. Judson, of Cuba, N. Y. The stalk, 41 inches long, contained 9 matured ears of an aggregate length of 44 inches. The specimen is a curiosity, which has required years in its production. The seed is now for sale in New York. We have a sample for planting next season.

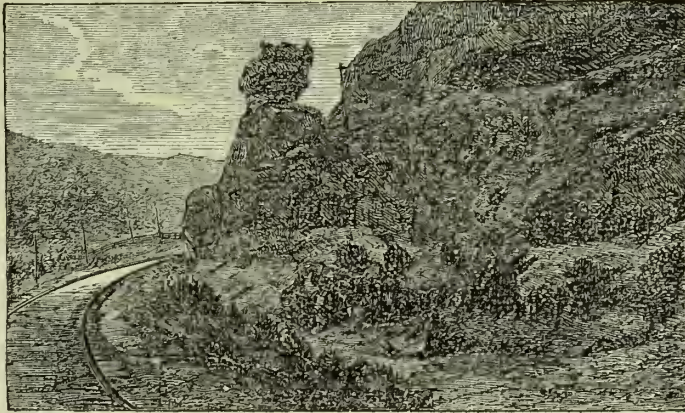
DENVER AGENT.—Mr. M. W. Levy, whose place of business is at the corner of Larimer and G streets, Denver, Colorado, will act as our agent and receive subscriptions and advertisements for the PRESS, and forward items of news and correspondence.

Editorial Notes Eastward.—10.

Echo Canon.—U. P. R. R.

Journeying on, we come to Echo City, a quiet little settlement, prettily situated. Then, leaving the Weber, we run off to the left, up among the bold red sandstone bluffs of Echo Cañon, where many a fantastic shape attracts our attention.

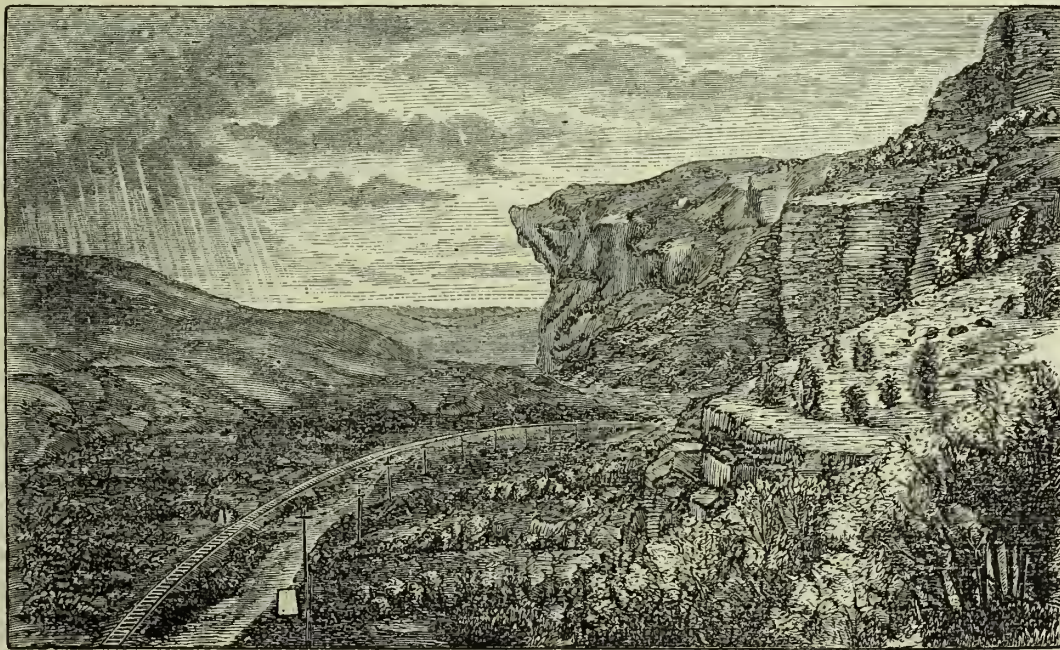
One of the first of these is Pulpit Rock, so called, partly from its appearance, and partly from the fact that from its summit Brigham Young preached (or is said to have preached) his first sermon in Utah. Then there is Monument Rock, the "Great Eastern," Dead Man's Rock, and numerous others. The massive walls of stone grow higher and higher and tower far above us, rising as mighty castles, huge cathedrals and rugged battlements.



PULPIT ROCK, ECHO CANON.

The cañon presents many an imposing view, mostly on the north side, however, and the travelers all congregate on the left side of the cars to see them. We can catch but brief glimpses as we hurry by, but these glimpses give us grand ideas of

present, and, of course, no adequate description can be given of it. But it has been visited by some of the curious in the neighborhood, and penetrated to the distance of half a mile or more. The entrance to it is from the east, just above the margin of the western shore of the Missouri



HANGING ROCK, ECHO CANON.

nature's agencies in these remarkable regions.

The Mormon fortifications are pointed out, and the old Emigrant Road with its most dramatic of histories. Soon we come to the Hanging Rock, [illustrated from Crofutt's Transcontinental Tourist Guide], jutting out from the face of a cliff like half the arch of a bridge, and threatening, as it has threatened for years, to fall in ruin from its position. So we ride swiftly on through the mighty places, turn into North Echo Cañon, with its Castle Rocks from 500 to 2,000 feet high, finally plunge through the longest tunnel on the Union Pacific, 800 feet long, and come to Wahsatch.

April 13th.

IMPORTED STOCK.—Among the blooded stock brought into California this season, were five Ayrshire yearlings, for James Quinn and others of Yreka, and a Clydesdale stallion and mare, for James Vance, of the same neighborhood. They were sent out by F. D. Curtis, from New York, at a cost for freight of \$600 for a car-load.

A Wonderful Cavern.

There is, within eighteen miles of Helena, one of the most wonderful caves in the world.

The Vermillion Buttes, a beautiful and picturesque range of hills, lie a little north of east from Helena, on the Missouri river, terminating abruptly at the Spokane Pass and Beaver creek on the south, and bounded on the north by the Prickly Pear cañon. They are dotted here and there with isolated pines and little groves, are covered from base to summit with a dense and luxurious growth of bunch grass, are traversed with regularly defined rocky ledges, forming beautiful avenues, and on top of the highest mountain there is a beautiful transparent spring, affording abundance of water. Beneath these buttes, mountains or hills, is an extensive subterranean cavity, whose boundaries and form have never been discovered by white men. This vast cavern is a perfect mystery at

the bowels of the hill, and has been followed by the footsteps of men for several hundred feet. It is believed that this is an entrance to the cave, and if so, it is at least three miles from that on the Missouri first mentioned.—*Helena Gazette.*

The Wild Peach of Nevada.

There grows in Nevada a species of wild peach which is exceedingly hardy and will live nearly everywhere that the sage brush can exist. It is found especially frequent in Carson Valley, Humboldt Valley and on the hills around Reese River, perhaps also elsewhere.

This tree grows to about the height of a man's shoulder in the most favorable localities, but is frequently found not over a foot high. The leaf is small and thick, more like that of the plum. In the spring of the year the plains are covered with the beautiful pink blossoms. The fruit has the perfect form of the peach, is greenish with a crimson tinge, of small size, not over $\frac{3}{4}$ to 1 inch in length, and is very bitter to the taste.

Dr. A. Blatchly, who furnishes us with the above information, says that he has long urged the grafting of this tree with good buds, as probably good fruit could thus be obtained. If on this hardy stock, which is very long-lived (it is said to live for 40 or 50, perhaps 70 years), a good peach could be grafted, it would be a great gain for Nevada. The experiment is certainly worth trying.

The Mechanics' Fair.

The Pavilion is being altered and enlarged for the coming Industrial Fair, and already the body of the building has been enlarged to Geary street on one side and Post street on the other.

More space has been applied for than was occupied at the last Fair, and applications are still coming in. Any delayed till after the 15th inst. will not be allowed in competition. People in New York, Philadelphia, Chicago, and in Sacramento, San Jose, Stockton and other cities, have made application and will have goods on exhibition. The next steamers from Japan and Australia will also bring articles for the Fair. It will open on the 12th of August, and promises to excel all other exhibitions of the kind which have preceded it in California.

FOSSIL REMAINS DISCOVERED.

While prospecting in one of the deep ravines formed by streams flowing from Stockton Cañon, Dr. L. G. Yates and Dr. Charles Allen, of Centerville, discovered the fossil remains of a mastodon. Its measurement is as follows: From front of jaw to the back of last molar teeth, twenty-four inches; width of jaw at angles, 18 inches; width of jaw midway between front and rear, 15 inches; depth of jaw from the crown of molar teeth, 9 inches; thickness of jaw, 6 inches. This specimen exhibits, in a marked degree, the peculiar process of shedding and replacement of the molar teeth. In the mastodon, all the grinders succeed like true molars, horizontally, from behind forward. In the jaw here mentioned, a part of one set of teeth have just been shed, another set are in place, and another set developed in the jaw, ready to replace others when shed. The jaw is one of the finest ever discovered in California.—*Bulletin.*

REMARKABLE FLOOD.—Papers from the Cape of Good Hope give accounts of a remarkable and sudden flood which has occurred at Victoria West. It is supposed to have been caused by the bursting of a water spout. In the space of two hours thirty houses were washed away and one hundred lives lost.

A ROYAL PRINTER.—The Emperor of Germany spent three years at the case.



BY OUR LADY EDITORS.

Althea's Birthday—A Home Story for the Children.

"Let me see," said Althea Day, "there are Mary Simpson and Arthur, her brother, Ellen Horton, the three King girls and their brothers, Tommie Strang, Julia Laey, Maria Hubbard, and Allen Barton; they make twelve, and that will be about as many as can enjoy themselves I think. I don't want my birthday party to be a mob."

"You have forgotten Josephine Mills," suggested her mother quietly.

"I have no intention of inviting her. Besides, I presume she couldn't come, for it is Saturday, and on that day she keeps up stairs while her mother washes out all the dress she has in the world so she can go to Sunday-school. Nobody makes anything of Josey, though she's good enough in her way." So Allie Day put her bonnet over her brown curls and went to school, thinking all the way about her party of twelve and the grand dinner her mother would prepare. "We will have games, I suppose," she thought; "though I think conversation is more dignified, and I'll practice all my music to-night. Perhaps Marsh King will bring his clarinet."

Just then Allie raised her eyes and saw Josephine Mills leading her little deformed brother toward the school-house.

"How good she is to him," thought Allie. "If he was my brother I should be so mortified! They say his father struck him in a drunken fit with a great stick of wood, and nearly broke his back. I'm sure I'm sorry for him, but he is as fretful as he can be. All the same, Josey takes care of him by night and day. What a dull life she must lead. I wonder if she ever went to a party in all her life. I am sure she never did, and very likely never will."

A little thought crept into Allie's mind that Josey might receive an invitation to one party at least, but she tried to excuse herself by thinking that the only dress could not possibly be washed and ironed in time for that birth-day feast.

Miss Morton opened the Bible as the last scholar settled himself in his place, and read the fourteenth chapter of Luke!

"When thou makest a dinner or supper call not thy friends, nor thy brethren, nor thy kinsmen, nor thy rich neighbors. Lest they also bid thee again and a recompense be made."

"But when thou makest a feast call the poor, the maimed, the lame, and the blind."

The color flew over Allie's face. "It is true," thought she, "that I selected the very girls to help me eat my birth-day dinner who will be sure to invite me to see them when they have a party." "The poor, the maimed, the blind." How Ellen Horton and Julia Laey would laugh if I should ask Josey and her deformed brother, and Peter Henry, the one-legged Scotch boy, and Mark Livermore, who saws wood for a living! Pshaw! what a birth-day party that would be!

Allie took up her reader and went into the class. Josey stood next to her, and she could not help but notice how pale and tired the poor girl looked. "I know," thought Allie, "her father staggered home last night just as we were leaving school, and all the boys laughed to see him. I remember now that Josey burst out crying, and ran home across the field, rather than hear them ridicule him. The King girls laughed too—hateful things! I presume if I should really invite Josey, all the rest would snub her just as they do in school; that would be agreeable!"

Why it was I cannot say, but the more Allie looked at Josey that day the better she liked her; and when school was out at night she astonished the drunkard's daughter by walking along with her and actually taking the other hand of Willie, the little deformed boy.

"It is too pleasant to go right home," said Allie; "let's go to the bank of the creek and get some raspberries."

"I am afraid mother will need me," said Josey; "but Willie was so pleased with the idea that she yielded, and the three climbed a fence and struck off through the woods, pleasantly chatting, as school-girls will. It surprised Allie to find how lady-like and agreeable Josey was. All her shyness and timidity vanished, and she had

so many interesting things to say that Allie nearly forgot what they had come for.

There was a charming waterfall, thirty feet down from where they were standing, and Allie had just stepped to the edge of the bank, where two or three raspberry bushes grew out of a cleft in the rocks; she leaned a little farther to see them more clearly, slipped on the dry moss, caught at the thorny boughs, swung clear off the bank, and fell half way down to the foot of the fall, dragging the bush with her. She just heard Josey's great cry of fright, and then knew nothing more till she came to her senses, when Josey was carrying her up the bank a little way down the creek.

A very hard struggle had Josey then. Her small, round arms were strained with their burden, and her breath came in short quick gasps, as if a feather's weight more had been too much.

"Put me down," said Allie; "I can walk," and then fainted again. Step by step, rod by rod did Josey toil along with her burden. It was a weary half mile to Mr. Day's, but she reached there just as the last red ray flashed through the top of the great elm at the gate.

Mrs. Day ran into the yard to meet her, and took Allie in her arms; but she turned back, as she saw her daughter open her eyes and smile, to kiss Josey, with all a mother's gratitude shining in her sweet eyes. That kiss would have paid for even a greater service, Josey thought, and went home not altogether heavy of heart, though she knew that her young friend had a broken arm, and must suffer for weeks.

You think Allie had no birth-day party after all? Well, yes! When Saturday morning came she called her mother and had a long talk with her. There were tears in Mrs. Day's eyes when she went away from the bedside, but her face shone with as sweet a smile as ever brightened a mother's countenance.

"Allie must have her party," she said to her husband; "and here is a list of the guests—there will be only five or six."

"Do you not think that company will excite her too much?" asked Mr. Day.

"I believe not," said the mother; "and her heart is especially set upon having Josephine Mills here. Now that poor girl has but one dress, and Allie asks if she may not send her the new blue muslin I made last week. I think if you take it Josey will understand that it is not a charity, but a little gift of friendship."

So Mr. Day walked away with the dress, but lost his road strangely, and only found it again after he had visited Harris' shoe store, Mrs. Wilder's milliner shop, and Holmes' shawl-room.

But who were invited to Althea Day's birthday dinner? Not by any means Julia Laey, the King girls, Tommie Strang, and the rest, but Peter Henry, who had had a limb amputated the year before; Mark Livermore, who sawed wood faithfully from morning till night, to give his old grandmother an easy life and plenty to eat; Sallie Lorey, the little dwarf, and of course, Willie Mills and Josey.

Prof. Zimmerman, who played the piano, and flute, and violin, etc., came in and made the house vibrate with his melodies. Miss Morton, who just dropped in to see how Allie was, threw off her bonnet and made herself charming, telling all manner of fairy stories and singing songs that made the children laugh and cry all at once.

The dinner? Ah, yes! I had nearly forgotten that. It was such a feast as Josey, Willie, Jane, Sallie, Mark, and Peter had never had before. The chicken pie was large and nice, and the puddings, raspberries, sugar cakes, ice cream, and Charlotte Russe were all as delicious as mortal hands could make them.

Strange? Before night every one of the twelve whom Allie had thought of asking, came in to enquire about her broken arm, and once in they stayed, and staying, were as merry and kind and altogether friendly to the wood-sawyer, the hunch-backed orphan, the drunkard's children, and the dwarf, as they were among themselves.

"I shall have a party myself," said Ellen Horton, "as soon as Allie's arm is well; and every one here must come."

"When thou makest a feast call the poor, the maimed, the blind."—*Home and Health.*

A BABY is not pretty—your pardon, but it certainly is not, as I shall put you in the way of proving. Magnify your naked innocent as many diameters as necessary to bring her up to the stature of a woman—whom of course, we will suppose to be chiseled in marble—or say the Venus de Medici; now look at them both together! By the aid of a certain ingenious apparatus, I have made this, or at least a practically similar experiment and nothing could

induce me to repeat it. The effect is appalling! The baby appears a frightful monster; a great, lubberly, hideous deformity, with the look of an idiot! From this I judge that a baby is tolerable only by reason of its minuteness—like a spider.

Truthfulness at Home.

Of all happy households, that is the happiest where falsehood is never thought of. All peace is broken up when once it appears there is a liar in the house. All comfort has gone when suspicion has once entered—when their must be reserve in talk and reservation in belief. Anxious parents, who are aware of the pains of suspicion, will place general confidence in their children, and receive what they say freely, unless there is strong reason to distrust the truth of any one. If such an occasion should arise, they must keep the suspicion from spreading as long as possible, and avoid disgracing their poor child while there is a chance of its cure by their confidential assistance. He should have their pity and assiduous help, as if he were suffering under some bodily disorder. If he can be cured he will become duly grateful for the treatment. If the endeavor fails, means must of course be taken to prevent his example from doing harm; and then, as I said, the family peace is broken up, because the family confidence is gone. I fear that, from some cause or another, there are but few large families where every member is altogether truthful. But where all are so organized and so trained as to be wholly reliable in act and word, they are a light to all eyes and a joy to all hearts. They are public benefits, for they are a point of general reliance, and they are privately blessed within and without. Without, their life is made easy by universal trust; and within their home and hearts they have the security of rectitude and gladness of innocence.—*Harriet Martineau.*

Presence of Mind.

A little child of one of our prominent citizens, living near the Mission, in this city, recently swallowed some poison—strychnine prepared for gophers. The father was absent, but the mother with admirable presence of mind instantly administered warm water and salt in repeated doses until the child had thrown up considerably, and applied other remedies, and then sent for a physician, who congratulated her that she had saved the life of her child by instantaneously doing what she did.

If a person swallows a poison, instead of breaking out into multitudinous and incoherent exclamations, dispatch some one for a doctor; meanwhile run to the kitchen, get half a glass of water in anything that is handy, put into it a teaspoonful of salt and as much ground mustard, stir it an instant, catch a firm hold of the person's nose, the mouth will soon fly open, then down with the mixture, and in a second or two up will come the poison. This will answer in a larger number of cases than any other. If by this time the physician has not arrived, make the patient swallow the white of an egg, followed by a cup of strong coffee, (because these nullify a larger number of poisons than any other accessible article), as antidotes for any poison remaining in the stomach.

THE ARAB WOMAN'S SECOND MARRIAGE. When the Arab woman intends marrying again after the death of her husband, she goes the night before the ceremony to pay a visit to the grave. There she kneels and prays him not to be offended—not to be jealous. As, however, she thinks he will be offended or jealous, the widow brings with her a donkey laden with two goats' skins of water. The prayer ended, she proceeds to pour the water upon the grave to keep the first husband cool under the irritating circumstances about to take place, and, having well saturated him, she then departs.

WOMANHOOD.—This is Celia Burleigh's idea of the womanhood demanded by the present age: "All the best attributes of humanity—tenderness without weakness; trust without credulity; modesty without prudery; dignity without haughtiness; self-respect without conceit; confidence without boldness; courage without coarseness; goodness without pietism; and reverent worship without superstition."

TO REMOVE MOTH FROM THE FACE.—The principal cause of these moth spots are biliousness, and the liver is torpid. The writer can testify that *hard cider, drunk freely*, doing away with tea and coffee, is a sure cure. Let it be the only beverage used until the spots are removed.—*Rural New Yorker.*

Young Folks' Column.

Little Boy Blue.

BY ABBY SAGE RICHARDSON.

Under the hay-stack, Little Boy Blue
Sleeps with his head on his arm,
While voices of men and voices of maids
Are calling him over the farm.

Sheep in the meadows are running wild,
Where poisonous herbage grows,
Leaving white tusks of downy fleeces
On the thorns of the sweet wild rose.

Out in the fields where the silken corn
Its plumed head nods and bows,
Where golden pumpkins ripen below,
Trample the white-faced cows.

But no loud blast on the shining horn
Calls back the straying sheep,
And the cows may wander in hay or corn
While their keeper lies asleep.

His roguish eyes are tightly shut,
His dimples are all at rest;
The chubby hand, tucked under his head,
By one rosy cheek is pressed.

Wake him? No. Let down the bars
And gather the truant sheep,
Open the barnyard and drive in the cows,
But let the little boy sleep.

For year after year we can shear the fleece,
And corn can always be sown;
But the sleep that visits little Boy Blue
Will not come when the years have flown.

Be Kind in Little Things.

The sunshine of life is made up of very little beams that are bright all the time. In the nursery, on the play-ground, and in the school-room, there is room all the time for little acts of kindness, among the young folks that cost nothing, but are worth more than gold or silver. To give up something, where giving up will prevent unhappiness—to yield, when persisting will chafe and fret others—to go a little around rather than come against one another; to take an ill word or a cross look, rather than resent or return it; these are the ways in which clouds and storms are kept off; and a pleasant, smiling sunshine secured even in the humble home, among very poor people, as in higher stations. Much that we term the miseries of life would be avoided by adopting this rule of conduct.

WHAT EVERY BOY NEEDS.—A thorough business education is what every boy needs. Many men of great learning, and of studious and industrious habits fail to get along well in life simply because they lack a business education. They don't know how to do business, and have not the faculty to earn their own living. There is a lack of business teaching in our common schools. If a person wishes to learn how to do business before he becomes practically engaged in it, he must go to some of the Business Colleges or Institutes, as they are called.

WHO GETS THE WORST OF IT.—A poorly-dressed boy, passing with a basket of berries in his hand, said to me, "Will you buy my berries to-day?" "I will take some of them," I said, and, taking his basket, stepped into my house. Seeing that he did not follow, I said to him, "Why don't you come in and see me measure your berries? How do you know that I shall not take more than I pay you for?" "I am not afraid," said he, "for you would get the worst of it if you did." "How so?" said I. "Because," said he, "I should lose only a few berries, but you would be a thief."

A WORD FOR THE BOYS.—A physician of great note has said: "Tobacco has a tendency to soften and weaken the bones of young people; it greatly injures the brain and spinal marrow, and in fact the whole nervous fluid. A boy who smokes frequently, or in any way uses tobacco constantly, is never known to make a man of much energy, and generally lacks muscular as well as mental power."

A BIG BASE VIOL.—It is said that there was at one time at the French court a viol so large that several boys could be placed within it, who sang the air, while the man who played it sang the tenor. It was often thus used at the concerts which were given to amuse Queen Margaret.

THE CAMPHOR TREE is a native of Borneo and Sumatra. The camphor is obtained by splitting open the tree, where it is found in large pieces in the interior.

THE beautiful, though common name "Mary," is Hebrew, and means a drop of salt water—a tear.

DOMESTIC ECONOMY.

The Art of Making a Pudding.

For this purpose wheat flour should be sifted and accurately measured, Indian meal scalded, tapioca soaked over night, sago and rice washed in several warm waters, dried bread rolled and sifted, the whites and yolks of eggs separately beaten; do not put them into hot milk or they will curdle; add the whites the last thing. Butter is the best shortening for wheat flour; but lard, suet and churn drippings are nice for corn meal.

Scald molasses and let it cool before using. Cream of tartar and yeast powder must be sifted with the flour, soda or sal volatile dissolved in lukewarm water and strained. A large amount of soda and saleratus is required for molasses; in using it with sour milk more or less should be used according to the acidity of the milk.

Raisins should be stewed, citron sliced very thin. Zante currants mashed and thoroughly dried, and all fruits well dredged with flour and added the last thing. Beating all the ingredients thoroughly insures a light pudding.

Batter puddings and custards require straining. Whether the pudding is to be baked, boiled or steamed, the dish or mold must be well greased. Bits of butter are sometimes put over the tops of baked custards to prevent their burning. We think steamed custards preferable. For boiling, four eggs should be allowed to a quart of milk, the milk placed in a tin pail in a kettle of boiling water.

Pudding bags should be made of strong, unbleached sheeting. Just before using, dip the bag in hot water, wring out, and dredge thoroughly with flour. Allow plenty of room for the pudding to swell. Place an old plate in the bottom of the pot to keep the pudding from being burned. Keep it well under water and the water constantly boiling. When done, dip the bag in cold water and the pudding will slide out in form.

For steaming, the earthen Turk's head is very common, and if well greased before the pudding is put in there will be no difficulty in preserving the exact form. More time is required to cook a pudding in steaming than in baking or boiling.—*Household.*

Good and Diseased Meat.

Good meat is neither of a pale pinkish color nor of a deep purple tint. The former is indicative of disease, and the latter is a sign that the animal died from natural causes. Good meat has a marbled appearance, and the fat, especially of the internal organs, is hard and snety, and is never wet, whereas that of diseased meat is soft and watery, often like jelly or soddened parchment. Again, the touch or feel of healthy meat is firm and elastic, and it hardly moistens the fingers; whereas that of diseased meat is soft and wet—in fact, it is often so wet that serum (the watery part of the blood) runs from it, and then it is technically called *wet*. Good meat has but little odor, and this is not disagreeable; whereas diseased meat smells faint and corpse-like, and it often has the odor of medicine. This is best observed by cutting it and smelling the knife, or by pouring a little warm water upon it. Good meat will bear cooking without shrinking, and without losing very much in weight; but bad meat shrivels up, and it often boils to pieces.

All these effects are due to the presence of a large proportion of serum in the meat, and to the relatively large amount of intercellular or gelatinous tissue; for the fat and true muscular substance are to a greater or less extent deficient. The use of diseased meat not only affects the human constitution, but it is also certain that tape-worm, trichina, and other parasitical diseases are produced by it. Experience also points to the fact that carbuncles and common boils are in some degree referable to the use of the flesh of animals affected with pleuro-pneumonia; and occasionally we witness the most serious diarrhoea and prostration of the vital powers after eating diseased meat. It is, therefore, safest to forbid its use.—*Good Health.*

KEEPING CIDER SWEET.—Thomas Johnson of East Mecca, Ohio, informs the N. Y. Farmers' Club, that his custom is to make the cider designed for drinking as late as circumstances permit. Then, after three days or so, draw it off as carefully as possible, so as not to stir up the pomace. Then strain it through a woolen cloth into other clean barrels. Then put into each

barrel a half pound of mustard, ground or unground; bung your barrels tight; keep them in as cool a place as possible so as not to freeze. He has kept it in this way as sweet as when put up, as late as June or July. Remember, when you draw your cider off, don't let in any more air than sufficient to make it run.

Oiling Floors for Kitchens.

I have, for several years, followed the plan of oiling uncarpeted floors, in order to avoid the labor of scrubbing them, and I find it works well. You can either oil or paint them, of course, but I consider the oiling preferable, on the following grounds: It is cheaper.

You can apply it yourself. You have not to wait for it to dry. It produces a pleasanter color. It doesn't show tracks of dust, mud and such like; and, therefore, a floor thus prepared does not require so frequent mopping.

An oiled floor is better than a plain one in the following particulars: It looks better.

It does not require scrubbing; which saves your back.

It is never to be mopped in hot water nor strong suds; which saves your hands.

Grease spots never hurt it; which saves your temper.

To prepare a floor, I take a quantity of the cheapest and least offensive oil I can secure, and apply it with a common paint brush. I put it on smoothly, so that it will strike in equally all over and yet not stand in spots on the surface. I do this at night, after the evening work is finished, and find the place ready for use the next morning. Of course it would not injure the oiled surface itself to tread upon it at once; but grease is liable to be tracked from it, at first, to adjacent parts of the house. A new coat of oil applied once in six months, or even once a year sometimes, is sufficient to keep a floor in perfect order.

One may thus prepare to great advantage the floors of kitchens, pantries, and summer-dining rooms, back halls, stairways and porticos, closets, bath rooms and laborers' bedrooms. It is also a good plan in children's apartments, particularly when you are training them to do their own room work, to leave bare that end or side of the floor under the bed stands, and to oil it. That portion of the floor under the bed can then be easily kept free from dust, the sweepings can be more readily removed, and the children will be afforded free scope for their duck-like style of ablutions, without danger to the carpet.—*Western Rural.*

Pennyroyal for Fleas.

The oil of pennyroyal will drive these insects off; but a cheaper method, where the herd flourishes, is to throw your dogs and cats into a decoction of it once a week. Mow the herb, and scatter it in beds of pigs once a month. I have seen this done for many years in succession. Where the herb cannot be got, the oil may be procured. In this case, saturate strings with it, and tie them around the necks of dogs and cats; pour a little on the back and about the ears of hogs, which you can do while they are feeding, without touching them.

By repeating this application every 12 or 15 days, the fleas will flee from your quadrupeds, to their relief and improvement, and your relief and comfort in the house. Strings saturated with the oil of pennyroyal, and tied around the necks and tails of horses, will drive off lice; the strings should be saturated once a day.—*Scientific American.*

HOW TO PURIFY CISTERNS.—If they are very foul clean them out. If not, heat half a bushel of charcoal, and when in a glow, pound it into pieces as big as hickory nuts, and shovel them with the coarsest of the dust into a wet gunny bag or other coarse sack; put in a stone big enough to sink it, and, tying a cord to it, draw it up and down through the cistern; many leaving it suspended near the top of the water one day and near the bottom the next. The results will be observed very soon, and will be permanent for several weeks, when the operation may have to be renewed.

TO BOIL MEAT to perfection it should be done slowly, in plenty of water. As the water boils away add more hot water. If boiled too quickly the outside of the meat becomes tough, and, not allowing the heat to penetrate readily, the inside remains raw. Boiled meat is best for invalids.

Domestic Receipts.

BUCKWHEAT CAKES are many times better and more wholesome when made light and thin. At night mix the flour with milk-warm water, a little salt, and a teacupful of good yeast into a rather stiff batter, and set it in a warm place to rise. In the morning thin the batter with milk, and add soda dissolved in hot water. They should not be baked up wholesale and pitched into a deep dish—that makes them heavy, but laid in neat piles on a flat plate, and baked as fast as needed at the table.

BREAD-AND-BUTTER PUDDING.—When dry bread is left, spread it with butter, and pile up the slices in a pudding-dish. Fill in with custard, add a few raisins. Bake long enough to cook the custard.

TOMATO CATSUP.—To one peck of ripe tomatoes boiled and strained, take 4 table-spoonfuls of salt, 4 of ground pepper, 4 of ground mustard, 2 of ground allspice, 2 of ground cloves, 1 of cayenne pepper, 1 quart of strong vinegar. Boil soft, and strain through a sieve that will let a little of the pulp through, then add the spice and boil gently for several hours; cool, and bottle.

FRENCH PICKLE.—Half peck green tomatoes, sliced, and the hearts cut out, six large peppers, one head of white cabbage, six large onions, all chopped fine, $\frac{1}{4}$ lb. white mustard seed, $\frac{1}{4}$ lb dark, one table-spoonful of black pepper, one teaspoonful cayenne; mix together, cover with good vinegar and boil four hours; sealed up in small jars keeps it best.

EAST INDIA PICKLE.—Chop Cabbage fine, leaving out the stalks, together with three or four onions, a root of horse radish and a couple of green peppers to each cabbage. Soak the whole in salt and water for three or four days. Spice some vinegar very strong mace, cloves, allspice and cinnamon. Heat it scalding hot. Add alum and salt, and turn it on the chopped pickles, which should previously have all the brine drained from them. In a course of three or four weeks the pickles will be fit for use.

Mechanical Hints.

CAST IRON COLUMNS.—Although cast iron columns are usually made of regular tapering shape, the strongest form for a column consistent with a given weight is that of a double cone, making it thickest at the middle.

A TURNING tool used on wood can have its temper destroyed by heating in working as well as one used in turning iron. In either case, the edge of the chisel should be exposed to the air, and not wholly buried in the substance.

CEMENT FOR STEAM AND GAS PIPE.—The following directions are given for making cement impermeable by air and steam, which is said to be superior to any in use for steam and gas pipes:—Six parts of finely-powered graphite, three parts of slaked lime and eight parts of sulphate, are mixed with seven parts of boiled oil. The mass must be well kneaded until the mixture is perfect.

HOW TO LOAD A WAGON.—In loading a wagon the greatest weight should be made to come on the hind wheels. Suppose the front wheels are four feet and the hind wheels five feet in diameter—then five-ninths of the load should rest on the hind wheels and four-ninths on the front wheels.

TO SOFTEN KID BOOTS.—Melt a quarter of a pound of tallow, then pour it into a jar, and add to it the same weight of olive oil, stir, and let it stand still; apply a small quantity occasionally with a piece of flannel. Should the boots be very dirty, cleanse with warm water. It will soften any leather.

SUBSTITUTE FOR PRUSSIAN BLUE.—A very fine blue color can be prepared from iron by making a saturated solution of green vitriol in water and converting 57 per cent. of such solution into sulphate of the peroxide of iron with sulphuric and nitric acids; this is added to the remainder of the original liquid. Concentrated sulphuric acid, cautiously poured in, to prevent too great heat, will occasion the formation of a blue precipitate, which is, however, soluble in water, but if it be separated from the liquid and rubbed with phosphate of soda, a beautiful blue phosphate of iron is obtained which will resist the action of water, and can be used as a paint. The mixed hydrates of oxide and peroxide of iron are deprived of water, and prevented from forming higher oxide, by the acids and phosphate. The reaction works well in a small way, and it remains to be seen how far it is capable of application on a large scale.

LIFE THOUGHTS.

THEY who weep over errors are not formed for crimes.

THEY are never alone that are accompanied with noble thoughts.

The founders of large fortunes are sometimes to mean to enjoy them.

MONEY is thrown away upon the spendthrift, and counsel upon a fool.

A MAN'S own good breeding is the best security against other people's ill manners.

To bring forward the bad actions of others to excuse our own, is like washing ourselves in mud.

THE bosom of a bad man is a desert, and the passions and vices are its tigers and hyenas and serpents.

FOUR things come not back: The broken word, the spent arrow, the past life, and the neglected opportunity.

MANY FRUITS.—There are many fruits which never turn sweet until the frost has lain upon them. There are many nuts that never fall from the bough of the tree of life till the frost has opened and ripened them. And there are many elements of life that never grow sweet and beautiful till sorrow touches them.

THE heart is the workshop in which are forged secret slanders, and all manner of evil speaking. The mouth is only the outer shop or salesroom, where all the goods that are made within are sold. The tongue is the salesman.

Down the Hill.

The evening of every man's life is coming on apace. The day of life will soon be spent. The sun, though it may be in mid-heaven, will pass swiftly down the western sky, and disappear. What shall light up man's path when the sun of life has gone down? He must travel on to the next world; but what shall illumine his footsteps after the nightfall of death, amid the darkness of his journey? what question more important, more practical, more solemn for each reader of our journal to ask himself? That is a long journey to travel without light, without a guide and without a friend. Yet every man must perform it. The time is not far distant when all men will begin the journey.

There is an evening in the natural world. Its radiance is bright and beautiful, and cheering to the benighted traveler. But life's evening star is in a good hope of heaven. Its beauty and brilliancy are reflected from the Son of Righteousness, whose bright rays light up the evening of life, and throw their radiance quite across the darkness of the grave into Immanuel's land. It has illuminated many a traveler into eternity. It is of priceless value. A thousand worlds cannot purchase it; yet it is offered without money and without price to him who will penitently and thankfully receive it.

DEATH AND LIFE.—Man dies, but nature is eternal. The seasons keep their appointed time; day returns with its golden splendor, and night with its eloquent mystery. The same stars that lit the ghastly battlefield of Troy, rough with the dead bodies of ancient heroes—which shone on the marble ble streets of imperial Rome, and on the sad eyes of Virgil—sleep in the living glow of inspiration. The watch-fires of the angels which through centuries of devastation and change, have still burned on unceasingly, speak to us as they did to Dante, Shakespeare and Milton, of the divine glory, the omnipotence, the everlasting beauty and love of God.

FAITHFULNESS.—Whatever happens, never forsake a friend. When enemies gather, when sickness falls on the heart, when the world is dark and cheerless, is the time to try true friendship. They who turn from the scenes of distress betray their hypocrisy, and proves that interest only moves them. If you have a friend who loves you, who has studied your interest and happiness, be sure to sustain him in adversity. Let him feel that his love was not thrown away. Real fidelity may be rare, but it exists—in the heart. They only deny its worth and power who never loved a friend or labored to make a friend happy.

MOTHS fly into the bright flame of a candle and singe their wings. So men, attracted by false yet beautiful lights, fly into them and get their immortal wings singed. Yet unlike the moth they gain wisdom, and a new set of wings from their fiery experience, with which they soar into the pure ether of God's love, and live for heaven ever after.

THE ORCHARD.

Fruit and Tree Growth.

Nathan Shotwell in the Farmers' Club says: A great difference exists in kinds of fruit and in relation to their susceptibility of growth. For instance, the Greening apple throws up a short, crooked trunk. The Northern Spy is a strait, vigorous, upright grower. It is difficult for grafters to supply themselves with scions of some kinds in consequence of the tendency to slow growth. Ladies' Blush and Sweet Bow are specimens of this character, while the Roxbury Russet, Baldwin and Greening are rapid growers. Scions grafted upon free, vigorous growers will throw up better growths and develop better fruit, both in color and flavor, than if grafted on stocks of puny growing kinds. Vastly more depends upon keeping the tree in a vigorous condition and well pruned for the admission of light and circulation of air than all the influences exerted by the stock. Mr. Hathaway, in his address before the State Pomological Society of Michigan, as reported in the *Michigan Farmer*, claims that the Northern Spy, grown on the Greening stock, is much paler than that grown upon the Spitzenberg stock, standing in the same soil, and that the Rambo, grafted on the Promme Gris, took the character of a Russet. I have no faith in such mixtures by the ordinary system of grafting. I believe the Russet, the Greening, and the Baldwin, though grafted from time to time upon stocks of all varieties, and generally upon inferior kinds, are as perfect to-day as they were where they originated. The crab apple, though grafted upon the stock of the Twenty-Ounce Pipin, will be the crab apple still.

Tree Mending.

O. H. Huester, of Michigan, gives the following specific directions for mending a girdled tree: When the leaves of the girdled tree begin to open, and the bark parts freely from the wood, is the time to begin. Cut a number of scions, according to the size of the girdled tree—from two to four or as many as eight. At each point you propose to bridge over, cut the ragged bark away, above and below, to that which is sound, and make a slight longitudinal incision in the bark, so that it will admit the scion without bruising its bark. It would be well to raise the points of the bark on each side of the incision. Now cut your scions to the proper length, allowing an inch and a half at each end to slip under the bark of the girdled tree; pare off the scion at each end, as far as it is to go under the bark—on one side only. Now slip the scion down, flattened side next the tree-wood, under the bark, at the lower incision, and, by gently bending, shorten it back to allow it to be entered above. In this manner insert the requisite number, tie a string over each splice, to keep the bark from rolling up, and cover all the several splices with grafting wax, and your tree is sure to live and outgrow the accident—provided all is done with average skill and care. I have trees in my orchard that I repaired in this way four years ago, and now, except a slight enlargement at that point, one would never suspect that they had ever been girdled; in fact, I consider them just as sound as any other trees.

Budding.—Peaches budded upon plain stocks, do not grow quite as vigorously as when upon peach roots; but they are less liable to be injured by cold or attacked by borers.

A PROFITABLE APPLE TREE.—Mr. J. B. Price, of Alabama, writes to the *Southern Agriculturist* that he has measured twenty-five bushels of apples from one tree this season. When the tree was transplanted it only cost twenty-five cents. It did not occupy more than 20x20 feet, and not more than an hour's labor has been given to it for the past five years. All included would not make the apple tree have cost Mr. Price more than \$1.25. Now the apples this year were worth, at the lowest estimate, fifty cents per bushel—being for the season \$12.50, making, for 1870, \$11 clear profit.

Blood as a manure has been recommended for orchards; some applying it raw have killed the trees. It should always be composted with muck or garden earth, and stand some months; and then it makes a safe and effective fertilizer.

Apples may be kept from decay by covering them with dry ashes, a method easily tried, and if sound satisfactory, capable of extensive application.

Abraham Lincoln on Thorough Farming.

It was not often that the Giant of Sangamon could swing his mind away from the court calendar and the impending conflict to speak of corn and wheat and plowing. But when he did, his talk was pregnant with that saving common sense which the events of the last years of his life made of vital importance to the country. Witness the following paragraph from a cattle-show speech made at Milwaukee in 1859:

For the last four years I do not believe the ground planted with corn in Illinois has produced an average of 20 bushels to the acre. It is true, that heretofore we have had better crops, with no better cultivation; but I believe it is also true that the soil has never been pushed to one-half of its capacity.

What would be the effect upon the farming interest, to push the soil up to something near its full capacity? Unquestionably it will take more labor to produce 50 bushels from an acre, than it will to produce 10 bushels from the same acre. But will it take more labor to produce 50 bushels from one acre, than from five? Unquestionably, thorough cultivation will require more labor to the acre; but will it require more labor to the bushel? If it should require just as much to the bushel, there are some probable, and several certain advantages in favor of the thorough practice. It is probable it would develop those unknown causes, which of late have cut down our crops below their former average. It is almost certain, I think, that in the deeper plowing, analysis of the soils, experiments with manure, and varieties of seed, observance of season, and the like, the causes would be found. It is certain that thorough cultivation would spare half or more than half the cost of the land, simply because the same product would be got from half or from less than half the quantity of land. This proposition is self-evident, and can be made no plainer by repetitions or illustrations. The cost of land is a great item, even in new countries; and constantly grows greater and greater, in comparison with other items, as the country grows older.

It would also spare the making and maintaining of inclosures—the same, whether these enclosures should be hedges, ditches, fences. This, again, is a heavy item, heavy at first, and heavy in its continual demand for repairs. I remember once being greatly astonished by an apparently authentic exhibition of the proportion the cost of an inclosure bears to all other expenses of the farmer, though I cannot remember exactly what that proportion was. Any farmer, if he will, can ascertain it in his own case, for himself.

Again, a great amount of "locomotion" is spared by thorough cultivation. Take 50 bushels of wheat, ready for the harvest, standing upon a single acre, and it can be harvested in any of the known ways, with less than half the labor which would be required if it were spread over five acres. This would be true, if cut by the old hand sickle; true, to a greater extent, if by the scythe and cradle; and to a still greater extent, if by the machines now in use. These machines are chiefly valuable as a means of substituting animal power for the power of men in this branch of farm work. In the highest degree of perfection yet reached in applying the horse power to harvesting, fully nine-tenths of the power is expended by the animal in carrying himself and dragging the machine over the field, leaving certainly not more than one-tenth to be applied directly to the only end of the whole operation—the gathering in of grain and clipping of the straw. When grain is very thin on the ground it is always more or less intermingled with weeds, chaff, and the like, and a large part of the power is expended in cutting these. It is plain that, when the crop is very thick upon the ground, a large proportion of the power is directly applied to gathering in and cutting it, and the smaller to that which is totally useless as an end. And what I have said of harvesting is true in a greater or less degree of mowing, plowing, gathering in of crops generally, and, indeed, of almost all farm-work.

THRESHING MACHINE.—The Visalia Delta notices a "small threshing machine" with which Dutch Bill of Yoko, during nine hour's work on the premises of Myers, on Lewis Creek, cleaned up 773 bushels of wheat and barley.

POETRY.

Out of the Old House.

BY WILL M. CARLETON.

Out of the old house, Nancy—moved up into the new;
All the hurry and worry are just as good as through;
Only a bonnden duty remains for you and I,
And that's to stand on the doorstep here, and bid the old house good-by.

What a shell we've lived in, these nineteen or twenty years!
Wonder it hadn't smashed in, and tumbled about our ears;
Wonder it stuck together and answered till to-day;
But every individual log was put up here to stay.

Things looked rather new, though, when this old house was built,
And things that blossomed you, would've made some women wilt;
And every other day, then, as sure as day would break,
My neighbor Ager came this way, invitin' me to "shake."

And you, for want of neighbors, was sometimes blue and sad,
For wolves and bears and wildcats was the nearest ones you had;
But lookin' ahead to the clearin', we worked with all our might,
Until we was fairly out of the woods, and things was goin' right.

Look up there at our new house! Ain't it a thing to see?
Tall, and big and handsome, and new as new can be;
All in apple-pie order, especially the shelves,
And never a debt to say but what we own it all ourselves.

Look at our old log house—how little it now appears!
But it's never gone back on us for nineteen or twenty years;
And I won't go back on it now, or go to pokin' fun,
There's such a thing as praisin' a thing for the good it has done.

Probably you remember how rich we was that night,
When we was fairly settled, an' had things snug and tight;
We feel as proud as you please, Nancy, over our house that's new,
But we felt as proud under this old roof, and a good deal prouder, too.

Never a handsomer house was seen beneath the sun,
Kitchen and parlor and bedroom—we had 'em all in one;
And the fat wooden clock, that we bought when we came West,
Was ticking away in the corner there, and doin' its level best.

Trees was all around us, whisperin' cheerin' words;
Loud was the squirrel's chatter, and sweet the songs of birds;
And home grew sweeter and brighter—our courage began to mount—
And things looked hearty and happy then, and work appeared to count.

And here, one night it happened, when things was goin' bad,
We fell in a deep old quarrel—the first we ever had;
And when you gave out and cried, then I, like a fool, give in,
An' then we agreed to rub all out, and start the thing agin.

Here it was, you remember, we sat when the day was done,
And you was making clothing that wasn't for either one;
And often a soft word of love I was soft enough to say,
And the wolves was howlin' in the woods not twenty rods away.

Then our first-born baby, a regular little joy;
Although I fretted a little because it wasn't a boy;
Wasn't she a little flirt, though, with all her pouts and smiles?
Why, settlers came to see that show a half a dozen miles.

Yonder sat the cradle—a homely, home-made thing;
And many a night I rocked it, providin' you would sing;
And many a little squatter brought up with us to stay,
And so that cradle, for many a year, was never put away.

How they kept a comin'! so cunnin' and fat and small!
How they growed! 'twas a wonder how we found room for 'em all;
But though the house was crowded, it empty seemed that day
When Jennie lay by the fireplace there, an' moaned her life away.

And right in there the preacher, with bible and hymn-book stood,
"Twixt the dead and the living," and "hoped 'twould do us good."
And the little whitewood coffin on the table there was set,
And now as I ruh my eyes it seems as if I could see it yet.

Then, that fit of sickness it brought on you, you know—
Just by a thread you hung, and you e'en a most let go;
And here is the spot I tumbled, an' gave the Lord his due,
When the doctor said the fever'd turned, an' he could fetch you through.

Yes, a deal has happened to make this old house dear—
Christenin's, funerals, weddin's—what haven't we had here?
Not a log in this buildin' but its memories has got,
Ane not a nail in this old floor but touches a tender spot.

Out of the old house, Nancy—moved up into the new;
All the hurry and worry is just as good as through;
But I tell you a thing right here, that I ain't ashamed to say:
There's precious things in this old house we never can take away.

Here the old house will staud, but not as it stood before;
Winds will whistle through it, and rains will flood the floor;
And over the hearth once hlazing, the snow-drifts off will pile,
And the old thing will seem to be a mournin' all the while.

Fare you well, old house! you're naught that can feel or see,
But you seem like a human being—a dear old friend to me;
And we never will have a better home, if my opinion stands,
Until we commence a keepin' house in the house not made with hands.
—Toledo Blade.

Atlantic Farm Items.

THE COMING COTTON CROP.—The Department of Agriculture has received returns with regard to the cotton crops, which show that there has been a great decrease in the breadth of land planted. The average percentage of reduction of the yield according to present appearances from acreage and diminished production, for the year, is set down as between 14 and 15 per cent, as compared with that of 1870. The average yield has not in former years exceeded 150 pounds per acre. That for 1870 was more than 200 pounds. The condition of the growing plant is below an average in nearly every State. The spring has been unusually wet and cold, retarding growth, causing many of the plants to turn yellow and die, and obstructing cultivation. To a large extent replanting has filled the vacant spaces with "imperfect stands." The weather however has recently been more favorable, and it is not impossible that an average condition may be obtained by the commencement of the packing season. It is too early yet to predict with much certainty. It is some consolation, however that the planters are growing corn and other products, for home consumption this year.

A COW COUNTRY.—Chautaugua, N. Y., has not less than 50,000 cows valued at \$3,000,000, also thirty cheese factories. A Dairyman's Board of trade has recently been organized there.

QUAILS.—A boy in Ohio watched a flock of quails running along the rows of corn, presuming they were pulling up the corn shot one, and found in its crop one cut-worm, twenty-one striped cucumber bugs, and one hundred chinch bugs.

THE PEACH CROP of Delaware is estimated at 4,500,000 baskets.

CROPS IN ILLINOIS AND IOWA.—The wheat prospects in Central Iowa and Illinois is represented as very encouraging. The growing wheat stands thick upon the ground, and the recent rains and warm sunshine have given it a luxurious appearance. Growers predict the earliest harvest known since Illinois was settled. The prospect of all the other grain is equally promising, as well as that of corn and potatoes.

CHINCH BUGS are already making their appearance in the wheat fields of Illinois.

WORLD'S FAIR.—It has been decided to hold a grand agricultural exhibition in Constantinople next year. The Porte has under consideration a proposal for an industrial exhibition at Smyrna.

THE farmers about Sedalia are complaining about the ravages of the chinch bug.

Two cherry trees at Anna Ill., yielded fifty-four dollars in fruit this year.

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and we offer it as the

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| | |
|------------------------------|--|
| No. 1 Churn holds 2 gallons; | |
| 2 do do 3 do | |
| 3 do do 6 do | |
| 4 do do 8 do | |
| 5 do do 13 do | |
| 6 do do 22 do | |

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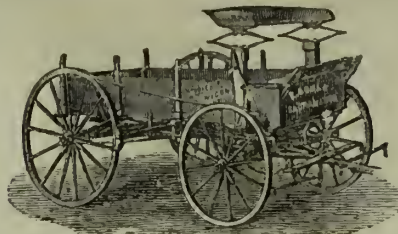
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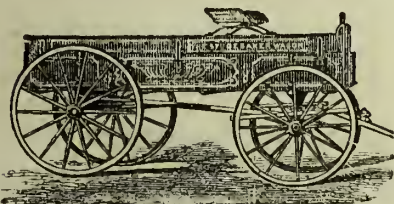
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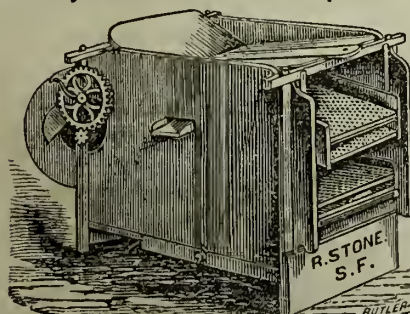
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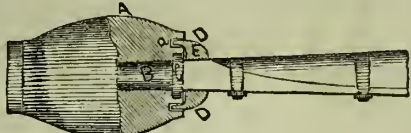
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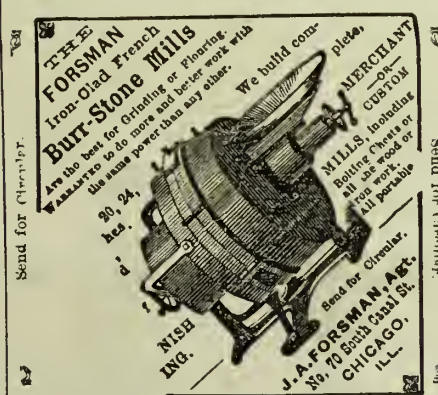
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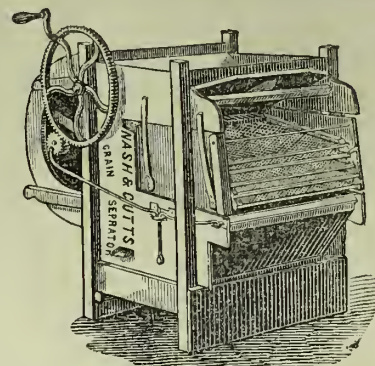


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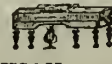
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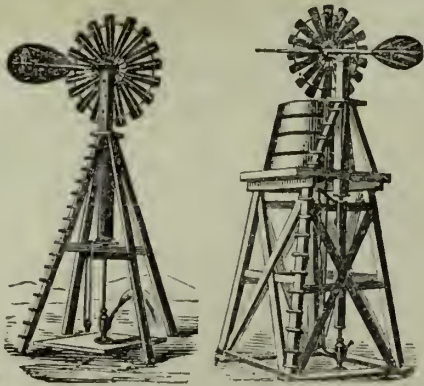
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| | 4:40 P.M. | Elko..... | 8:45 A.M. | |
| | 6:20 A.M. | Ozden..... | 5:20 P.M. | |

SAN JOSE BRANCH.—LEAVE SAN FRANCISCO at 9:10 a. m. daily (except Sundays), and 3 P. M. daily. Returning leave San Jose at 7:30 a. m., daily, and at 3:30 p. m., daily (except Sundays).

OAKLAND BRANCH.—LEAVE SAN FRANCISCO, 6:50, 8:10, 9:10, 10:20 and 11:10 a. m., 12:00, 1:50, 3:00, 4:00, 5:15, 6:30, 8:30 and 11:30 p. m. (10:20, 11:10 and 3:00 to Oakland only).

LEAVE BROOKLYN, 5:15, 6:30, 7:40, 8:50 and 10:00 a. m., 1:30, 2:40, 4:55, 6:10, and 10:10 p. m.

LEAVE OAKLAND, 5:25, 6:40, 7:50, 9:00, 10:10, 11:00 and 11:50 a. m., 1:40, 2:50, 3:50, 5:05, 6:20 and 10:20 p. m.

ALAMEDA BRANCH.—LEAVE SAN FRANCISCO, 7:20, 9:00, and 11:15 a. m., 1:30, 4:00, 5:30 and 7:00 p. m. (7:20, 11:15 and 5:30 to Fruit Vale only).

LEAVE HAYWARD, 4:30, 7:00 and 10:45 a. m., and 3:30 p. m.

LEAVE FRUIT VALE, 5:25, 7:35, 9:00 and 11:20 a. m., 1:30, 4:05 and 5:30 p. m.

*Trains do not run Sundays.

T. H. GOODMAN, A. N. TOWNE, Gen'l Pass'gr and Ticket Agt. Gen'l Supt.

Annual Election—Notice to Stockholders.

The First Annual Election of Stockholders of THE CALIFORNIA CO. OF GROWERS AND MANUFACTURERS ASSOCIATION will take place at the office of the Association, in the city of San Francisco, at 10 o'clock in the forenoon, on Saturday, the 5th day of August, 1871.

By order of the Board of Trustees, JAMES DALE JOHNSTON, Secretary. San Francisco, July 1st, 1871. jun-4-tt

SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address STORRS, HARRISON & CO., 1v2-6m Painesville, Lake Co., Ohio.

F. A. ROULEAU,

SEARCHER OF RECORDS,

No. 620 Washington Street,

SAN FRANCISCO, CAL.

2v2-2m

Phelps' Patent Animal Trap,



FOR GOPHERS, SQUIRRELS, RATS, CATS, AND OTHER "VARMINTS."

This Trap, as may be seen, is of simple construction, and not likely to get out of order, and very durable.

It is Very Efficient

and can be used conveniently by women or children. THE CHEAPEST AND BEST YET INVENTED. Price 50 cents. By mail, prepaid (to places where express charges are high), \$1. A liberal discount to clubs or dealers who buy by the dozen. Address the Inventor and manufacturer, D. N. PHELPS, al-ly-awbp San Leandro, Alameda County, Cal.



Volume II.]

SAN FRANCISCO, SATURDAY, JULY 22, 1871.

[Number 3.]

The Farallones.

"The Farallones" is the name of a small group of islands lying some twenty-seven miles seaward from the Golden Gate, which may be seen in any clear day from either the Cliff or Ocean House. The view which we give, herewith, was taken from the outside of the islands, looking east. The lighthouse is seen perched upon the top of the principal island, while the air is literally filled with birds, like bees around a hive. Those which are most numerous are Murre or foolish Guillemot. This bird, after laying its egg, never leaves it, except for short periods of time during which the male stands guard over the same, for the reason that the gulls are always by and watching for an opportunity to steal and eat it. The eggs are unaccountably large for the size of the bird—about twice as large, in proportion as hen's eggs.

In addition to the murre there are also the pigeons, hawks, coots, puffin, gull, shag, etc. The two last are the only ones that remain there through the winter. So numerous are they during their periods of incubation, that if you walk among them they rise by thousands and fairly darken the air with their flight.

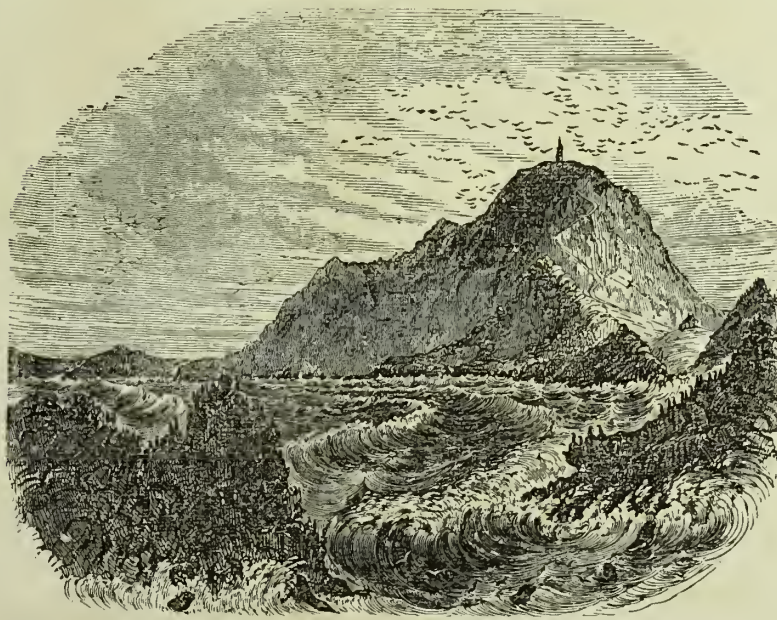
Besides the birds, the rocks adjacent to the sea are constantly covered with great numbers of seals—many of them of huge proportions, weighing from 2,000 to 5,000 pounds and upwards. It is said that these curious animals have each their particular rocks, where they take their siestas, and that they do not allow their premises to be invaded by stranger seals without a fight.

A very full description, with numerous illustrations of this interesting locality, is given by Mr. Hutchins, in his "Scenes and Wonders of California," to the publishers of which, Messrs. A. Roman & Co., of this city, we are indebted for the beautiful illustration which we herewith present.

PIONEERS AND SUTTER'S FORT.—A '49 Pioneer, in the *Calistoga Tribune*, suggests that the various Pioneer Societies in the State unite to the purchase of the site of Sutter's Fort, at Sacramento, with the view of restoring its broken down walls and fitting it up as a place of public resort and infirmary for indigent pioneers. The site, if not thus rescued, will soon be cut up into city lots, and the last vestiges of its walls destroyed. The City Street Railroad will soon be extended to the locality, and there is no question but that the speculation could be made to pay for itself, if it was so desired. The suggestion is an eminently proper one, and most timely.

COL. STRONG'S COTTON CROP.—Col. Strong writes that his cotton is showing a profusion of blooms, and that the crop is growing with a degree of rapidity seldom witnessed in the Atlantic States. The Colonel is in good spirits and sanguine of success in his enterprise.

THE GIRDLED PEACH ORCHARD AGAIN.—Our readers will doubtless recollect the Green-Martin peach orchard at Benton Harbor, Michigan, which, up to last fall, had been girdled five times, but the damage so repaired with the help of the neighbors, who have as many times turned out to save it, that it has thus far been preserved. We now learn that this orchard has the present season been girdled again! We have also the satisfaction to learn that this time the operator has been caught and safely lodged in jail. He was employed in a bakery in St. Joseph, and his name is William Cornell. He had loaned Green \$1,500 some years ago; Green failed, and Cornell lost his money—the savings of a life-time of hard labor. He fancied the sale of the orchard by Green to Martin G.



THE SOUTH FARALLONE ISLAND, FROM THE BIG ROOKERY, LOOKING EAST.

Hunter was a bogus transaction, and sought revenge by girdling Hunter's trees, planted by Green.

HOW TO KILL HORSE RADISH OR NOXIOUS WEEDS.—A recent writer says he has effectually disposed of certain weeds on his lawn, among them horse-radish, "by cutting with a spade two or three inches below the crowns, and pouring on the part left in the ground a little kerosene. The sod was dropped back and the horse-radish failed again to put in an appearance. Any troublesome weeds can easily be killed in this way without injuring the grass. This application is more convenient and cheaper than sulphuric acid, which we recommended some weeks since for a similar application.

COTSWOLD WOOL AT THE EAST.—The *Albany Register* of July 1st alludes to a recent shearing and sale of some Cotswold fleeces in that city. A fleece taken from a full-blood ram, with fiber from 12 to 14 inches in length and weighing 14 pounds, sold for 46 cents per pound. A fleece from a quarter-blood lamb measured three inches in length. The price given is much lower than the general estimate of the value of this wool.

Contributions From Japan and China.

Mr. H. D. Dunn, agent for the Industrial Fair, has brought 170 packages of most varied description from Japan, and 19 packages from China, making a total of 60 tons. These will make a fine showing. The next steamer will bring 20 to 25 tons additional. The Japanese Government has appointed a special committee of nine, who are now in the city, who will report on the Fair, and on our agricultural, mining and manufacturing industries.

In order that the public may form some idea of the variety and extent of the proposed exhibit, we append the following list furnished the Institute by Mr. Dunn:

Flax in its raw state.
Flax in various stages of manufacture.

Crystal Work.—Plain stones, also mounted in gold and silver jewelry.
Bronze Work.—Plain, carved and inlaid with other metal and enamelled.
Bird cages of bamboo and other material.
Fishing tackle, lines, etc.
Colors in lacquer and in a dry state.
Brushes, armor, Japanese war weapons, ancient and modern.
Cutlery.—From swords to the smallest articles made.
Leather.—In skins of all kinds made.
Leather Manufactures.—All varieties.
Sugar in its raw and refined state.
Tobacco in the leaf and manufactured states.
Umbrellas, lanterns, mirrors, costumes, hats, shoes, musical instruments, kites, toys, etc.
Wheat and other grain, dry vegetable produce, flour.
Fruits dried and preserved.
Stone suitable for cutlery and lithographic purposes.
Mineral specimens and curiosities.
Coins.—Specimens of ancient and modern dates.
Carvings in wood and stone.
Tea.—Specimen boxes of various kinds.
Tortoise shell work in all its varieties.
Fine metal castings, bells, coppersmith work.
Glass work in its varieties.
Woods used for cabinet and furniture purposes.
Screens, ornamental and useful.

Beet Sugar in Utah.

In our trips about Salt Lake valley we came across a beet sugar establishment, or a building that had been erected and once used for that purpose, but which is now standing entirely idle, the business having been abandoned. Upon inquiry of some of the parties who were interested in the enterprise we were informed that they obtained the most approved machinery and the best artisans that could be found in Europe; that they planted large quantities of the real Selesian sugar beet and made a number of thorough trials to produce sugar, but an almost entire failure was the uniform result. The cause could not be attributed to defective machinery or want of skill in the operation, and the soil produced the finest specimens and largest quantities of beets. The conclusion arrived at was that there was too much alkali in the ground. Would it not be well, as a further test, to raise a small lot of beets there and send them to Aivarado for trial?

A Peaceable People.

The Territory of Utah contains about 150,000 Mormon inhabitants, and we are informed by A. Milton Musser, a gentleman of high standing and well posted in the premises, that one Justice of the Peace, could adjudicate all legal questions arising between Mormons in the entire Territory, if they could be concentrated, and have three hours a day to spare to work in his garden. Mr. Musser also states that outside of Salt Lake City and the mining towns surrounding, there cannot be found a drinking saloon or gambling house in the Territory.

OLD WHEAT.—Kalisher & Boseman shipped 75 tons of old wheat from Stockton to this city on the 11th inst., and on the 14th J. D. Peters shipped 25 tons more and 25 tons of new, to the distillery at Antioch.

Vegetable Tallow in its raw state.
Vegetable Tallow manufactured into wax and other articles.
Coal.—Sample lumps of the different varieties in Japan.
Iron Ore.—Samples of the different qualities in Japan.
Iron in pig and in various forms, as rod, bar, sheet and plate.
Steel, cast and in bar and other shapes.
Copper Ore.—Sample specimens.
Copper in pig and in bar, rod, sheet and other forms.
Lacquer and Varnish Gums.—Samples of the various kinds.
Oils of vegetable and mineral production.
Lacquer varnishes of the various kinds used.
Tools used by carpenters, stone masons, blacksmiths, plasterers and farmers.
Matting in rolls of various kinds. Also mat cloth used against rain.
Cotton in its raw state. Also seed of same.
Cotton manufactures, say in thread, piece and smaller articles.
Silk, raw, floss, reeled ready for manufacture.
Silk in skeins and woven in different ways.
Also silk garments.
Paper, all varieties made.
Paper stock or materials from which the various kinds of paper are made.
Bamboo Work, all the various kinds of manufacture, viz.: basket work, carvings, thread work, wove and spun work.
Lacquered ware in all its varieties.
Porcelain ware in all its varieties including inlaid and enamelled ware.
Fans.—An assortment of the different kinds made.
Ivory Carvings.—An assortment showing skill in workmanship.

MECHANICAL PROGRESS.

NEW GALVANIC GAS LIGHTER.—Prof. Klinkerfuss, of Göttingen, has invented an apparatus for igniting gas and other lights. As regards gas lights, we condense from the *Sci. Am.* Each lamp-post has its own galvanic apparatus, and the galvanic pair touches the liquid only during the short space of lighting up. An hermetically closed vessel is provided with a compartment or bell, open at the bottom, so as to communicate with the main vessel, and having a galvanic pair of zinc and graphite fixed to the cover in such a manner that the solution of bichromate of potassa and sulphuric acid, in the lower part of the vessel, is not reached by them when the apparatus is in its usual inactive state. A pipe leading to the burner of gas flame, passes, air proof, through the cover of the vessel and is immersed in the liquid, thus shutting off the outer air from communication with the upper part. The latter is filled, above the above named liquid, with illuminating gas supplied from the gas works, and as the pipe which passes through the cover is of sufficient length to hold the hydrostatic column raised by the small and nearly constant pressure usual in gas pipes, it takes the place of the last stop cock in the supply pipe. By another pipe leading to the bell from a station at any required distance, the air in the upper part of the bell can be rarefied, and thus the liquid in the hermetically closed vessel can be sucked up, lowering the surface so that the escape of the gas through the pipe leading to the burner is first opened, and then, on continued suction, the zinc and graphite plates are reached by the liquid. At this point the galvanic circle is closed, and the platinum wire over the mouth of the pipe leading to the burner becomes heated, and acquires sufficient catalytic power to kindle to a flame the hydrogen contained in the gas jet. After this is effected, a slight remission of the sucking power in the pipe is made to sink the level below the galvanic plates, in order to avoid unnecessary exposure, but without shutting off the escape of the gas. In order to make sure of this effect on all the lamps, a model apparatus must be placed at the station, corresponding in all respects to those of the lamps. The putting out of the light is effected by opening the sucking pipe to the access of atmospheric air, thus restoring the previous state of equilibrium, and, at the same, preventing differences of temperature in different parts of the sucking pipes to cause partial suckings, and thus stop the correspondence in the working of the apparatus on the different lamps. This apparatus may be attached to any ordinary gas pipe, and is easily removed, when required, for the purpose of a revision.

IRON PAPER.—THE THINNEST YET.—The London *Mining Journal* records the production of the thinnest sheet of iron ever yet seen, and records the history of similar sheets. We condense. In 1851 a Pittsburgh (Pa.) firm produced a sheet with a surface of 44 in., weighing 69 grains, and 1-1800th of an inch thick. A Welsh firm next made one of the same surface weighing only 46 grains. Staffordshire, England, produced still thinner sheets, which, reduced to the same standard would weigh only 33 and 31 grains respectively. After these came sheets which would weigh (reduced to the standard of a surface of 44 inches) 23½ and 23 grains respectively. But the Upper Forest Tin Works, near Swansea, have capped the climax. They have produced a sheet, 10x5½ inches, weighing 20 grains, which is but 16 grains for 44 surface inches, and it requires 4,800 placed side by side, to make 1 inch in thickness. This stands on record as the thinnest sheet of iron ever rolled. The thinnest sheet of tissue paper to be purchased measures the 1200th part of an inch; is 4 times as thick as this.

NEEDLE MAKING.—The latest invention of importance in the needle trade is a pointing machine, of English origin. A grooved grindstone, revolving at great speed, grinds the end of each wire into the desired shape. To this grindstone the wires are applied from an inclined plane, on which a number are placed cut to the length required. By means of a disc, surrounded with caoutchouc, revolving slowly in a direction transverse to the grindstone, a continuous supply of wires rapidly revolving in succession is supplied to the stone, and the same disc causes the wire to revolve while being pointed. Redditch,

in Worcestershire, England, employs 8,000 people in making needles, and is the trade center of Great Britain. The principal seat of industry on the continent is Aix-la-Chapelle, but at Lyons, and one or two towns in Normandy, the common qualities are largely made. The Chinese supply their own requirements, and it is thought that the craft is more ancient in the Celestial Empire than in Europe. Certain it is, that round-eyed needles were made in China long before the primitive square-eyed ones were known in England.—*Mechanics' Magazine.*

NEW TRANSIT INSTRUMENT.—A new transit, Heller & Brightley's, is described in the *Proceedings of the Amer. Philosophical Society.* It is a "long center" transit, with plates ribbed, so as to get equal strength with less weight, which detaches as easily as the "short center," but keeps all the centers covered and not removable from the instrument, and leaves the tripod-head and legs with the four levelling-screws, etc., to be carried by the assistant. It is steadier than, and weighs one-half as much as, the ordinary long center. It has an improved tangent screw, which will never get "lost motion" by wear. This is effected by means of a long cylinder nut, from whose interior ¼ of the screw has been removed; into half the recess thus left in the nut is fitted a cylindrical follower, with the same length of screw-thread as the nut, fitted with a key that allows longitudinal motion but prevents it turning in the recess. In the remaining half of the recess is placed a strong spiral spring, between the fixed nut and the movable follower, with tension enough to force these apart and thus remove any lost motion which may occur in the screw. The tangent screw is attached to the plates by a modification of the gimbaling of a ship's compass. A new eye-piece and improved lenses give a clear and sharply defined field of view, and one so flat that the cross hairs are without parallax in any part of it, and micrometer hairs or stadia can be used. Platinum cross-hairs, 1-1000th of an inch thick, are used. The screws are lubricated with plumbago. A simple arrangement of the clamps on the axle of the transit, makes it answer the purpose of a pair of compass sights for taking off-sets.

DIMENSIONS OF NARROW GAUGE LOCOMOTIVES. It appears that a narrow gauge locomotive, with driving wheels 36 inches in diameter, and cylinder with 16 inch stroke, at a speed of 36 miles per hour, develops the same speed of piston as a full gauge locomotive with 5 feet driving wheels and cylinder with 24 inch stroke, at a speed of 40 miles per hour. With driving wheels 40 inches in diameter, and 16 inches stroke of piston, the narrow gauge locomotive develops the same travel of piston in going one mile as does the full gauge locomotive with 60 inch driving wheels and 24 inch stroke of piston. Equal speeds are therefore attainable on the narrow as on the full gauge. The angle of stability of the narrow gauge locomotive, with 3 feet driving wheel, is somewhat greater than that of the common locomotive with 5 feet driving wheel. Many interested in the success of the narrow gauge system have been puzzled to understand why engineers claim equal safety and speed for the former with the wider gauge. The above facts give the reasons for these claims.—*Iron Age.*

MACHINE FOR FOLDING, PASTING AND TRIMMING PAPERS.—Messrs. Chambers & Co., of Philadelphia, have invented a new machine, which they have made for *Every Saturday*, of Boston. The *Record* says: It is the only machine of the kind in the world, and is really a wonder in its working, accomplishing the various processes of folding, pasting and trimming at one operation. The two sheets of which *Every Saturday* is composed are fed in at opposite ends, taken up by the machine and carried toward each other, while by a series of automatic movements they are folded, trimmed and pasted in transit; arriving simultaneously at the center of the machine, the smaller sheet is placed accurately inside the larger one, and both receive their final fold and are deposited carefully in the box placed for them, a perfect paper. This operation is repeated, when the machine is at its highest speed, 30 times per minute, without mistake or variation.

BRONZE BUST OF IRVING.—A colossal bust of Washington Irving is to be erected in Prospect Park, Brooklyn, New York. With the pedestal, it will be 14 feet high. All the work has been done in the U. S.

SCIENTIFIC PROGRESS.

AMERICAN TELEGRAPHIC HISTORY.—In Prof. Morse's address at the unveiling of the statue in New York City Central Park, he alluded to the history of the telegraph in the U. S. We condense: To Alfred Vail, of Morristown, N. J. with his father and brother, is due the first important aid in the progress of the invention. Aided also by Professor Gale, the telegraph appeared in Washington in 1838, a suppliant for the means to demonstrate its power. To the Hon. F. O. J. Smith, then Chairman of the House Committee of Commerce, belongs the credit of a just appreciation of the new invention, and of a zealous advocacy of an experimental essay, and of the inducing of an admirably written report in its favor, signed by every member of the committee. It was nevertheless thrown aside among the unfinished business of the session; and now commenced days of trial. Years of delay were yet before it. It was not till 1842 that it was again submitted to Congress. Ferris, and Kennedy, and Winthrop, and Ayer, and McClay, and Wood, and many others, rallied to its support, and at length, by a bare majority, the bill that was necessary was sent to the Senate, where it met with no opposition, and was passed the last night of the session. Now commenced a new series of trials. To Ezra Cornell is due the credit of early and effective aid in the superintendence and erection of the first public line of telegraph ever established. Notwithstanding the success of the experimental essay, another important step was necessary ere the invention could demonstrate its vast utility. It was not until the skill and experience of the best Postmaster General that ever held that office, the Hon. Amos Kendall, were brought into requisition, that, amid many discouragements, the various companies were organized, and in the hands of such enterprising men as Sibley, Swain, and Wade, and a host of determined men, this vast country was webbed with telegraphic wires.

Another grand stride was yet to be taken ere international communication could be established. In October, 1842, the first submarine telegraph cable was laid by me in one moonlight night, in the harbor of this city, which proved experimentally the practicability of submarine telegraphy, and from the result of this success I ventured, the year after, in a letter to the Secretary of the Treasury, to predict the certainty of the Atlantic Telegraph. It was then believed to be a visionary dream; and had the individual carrying out of so bold an enterprise depended upon me alone, it might still have been a dream. But at this crisis another mind was touched with the necessary enthusiasm, admirably fitted in every particular to undertake the novel attempt.

To Cyrus W. Field, more than to any other individual, belongs the honor of carrying to completion this great undertaking. Associating with himself Cooper, and Taylor, and Roberts, and White, and Hunt, and Dudley Field, and others on this side of the Atlantic, and, two years later, Peabody and Breet, and Brooking, and Lamson, and Gurney, and Morgan and others in Great Britain, making the ocean but an insignificant ferry by his repeated crossings, undaunted by temporary failures and unforeseen accidents, he rested not till Britain and America were united in telegraphic bonds—the Old and the New World in instantaneous communication.

COMPRESSED SLACK COAL.—The *Iron Age* says that the process of E. F. Loiseau has been tried in Philadelphia with good results, on anthracite waste, and has been successfully used for four months at Nashville, Tenn. Only 7 per cent. of clay is used. The fuel is rendered water-proof (which is necessary) by dipping the prepared balls into a liquid composed of 18 lbs. rosin and 3 gals. gasoline, or benzine, to the ton of fuel. The coal is sufficiently compact to allow transportation and storing, burns nicely, produces but little ash and no cinder, ignites readily, and maintains its shape until thoroughly consumed. It answers well in heating and cupola furnaces. It is now retailed at \$5 per ton.

OZONE ACTS ON EXPLOSIVE COMPOUNDS. It has been found, says the *Journal of Ap. Chem.* that ozone will decompose nitro-glycerine into nitric acid and glycerine acid. Nitro-cellulose (gun-cotton) and nitro-mannite yield nitric acid and oxalic acid. When gun cotton undergoes spontaneous decomposition, a similar class of compounds is produced, but what is rather remarkable in this case is the fact that

sealed packages of gun cotton are more likely to decompose spontaneously than open ones, as if the ozone was generated in the closed bottle and not in the open one. Air rich in ozone will cause the explosion of several of the nitro compounds. It would be interesting to know if the explosion of powder mills could not be traced to the action of an unusual quantity of ozone generated by thunder storms in the air, rather than to the direct action of the lightning. The powerful decomposing action of ozone calls attention to it as a useful agent in many branches of manufacture, and the importance of devising some way of generating it economically and in large quantity is more pressing than ever.

ELECTRICAL SHADOWS.—In a paper in the *Amer. Jour. of Science*, Prof. A. W. Wright, of Williams College, admits the possibility of the impression of outline images upon the surfaces of other objects. He says:—"The formation of the electrical shadow, discussed in my former paper, as has been suggested by Mr. C. F. Varley, who has more recently obtained results similar to those there described, appears to afford a satisfactory explanation of a singular and very interesting phenomenon, which has occasionally been observed in the case of objects struck by lightning, especially of persons killed by it. A number of instances are on record where the person struck was found to have, impressed upon some portion of the body, a delineation of something near him at the time of the stroke, and a similar effect has been noticed, also, in the case of inanimate objects. The experiments in the production of the electrical shadows show that it is merely necessary that the object should interrupt the lines of action of the electricity, and that it may be at a considerable distance from the electrified cloud, the chief and indispensable condition being that the latter should be negatively electrified. We should then have the body exposed to the lightning, perfectly electrified by induction, and, as the tension became sufficient, the dark discharge accompanied by the glow would take place, followed by the lightning stroke. If, then, any object should be in the path of the discharge, its image would be formed in the glow, and this might, in rare cases like those recorded, be sufficiently intense to leave a permanently visible impression."

FIXING MAGNETIC LINES.—Prof. A. M. Mayer has invented a very perfect method of fixing the figures produced by iron filings when set in momentary vibration on a surface over a magnet. He wets a clean glass plate with shellac, dries it, places it over, and just touching, a magnet or magnets, with its ends supported on wooden rests. Iron filings are then uniformly sifted over the plate, and the spectrum produced by tapping it with a copper wire. A heated cast iron plate is then placed over the glass plate (which has been cautiously removed), and the iron filings, absorbing the radiated heat, sink into the softened film of shellac and are thus fixed. Plates thus produced serve for the most accurate measurements upon the magnetic field, can be photographed or used as lantern slides. They give most perfect images of the magnetic curves.—*Mech. Mag.*

LITHOFRACTEUR, as we learn from *Engineering*, although extensively used in Germany for over two years, has just been introduced into England. It is the invention of Prof. Engels, of Cologne, and consists of nitro-glycerine as a base, gun cotton, the constituents of gunpowder, some chlorates, and infusorial earth. These substances are mixed in special ways (kept secret) until they form a black putty-like compound, which is made up into paper cartridges, 4½ inches long and ¾ inch in diam., weighing 1¼ ozs. each. When lighted in the air by ordinary means, it burns quietly, but when ignited by a cap it explodes violently. Various attempts to explode it by most violent shocks, as in railroad collisions, failed, while its power in quarries, mines, etc., when exploded by the cap, was tested most successfully.

BOILING POINT OF GLYCERINE.—Says the *Chem. News*: When the pressure in the still is reduced to 12.5 m. m., chiefly water goes over. When the boiling point under constant pressure has risen to 179.5° C., perfectly pure anhydrous glycerine condenses in the receiver. Under a pressure of 50 m. m., glycerine distills over unchanged at 210° C. 2 parts glycerine and 3 parts water freeze at 112° F.; 1 part glycerine and 1 part water, at 6° F.; 1 part glycerine and 3 parts water, at 20° F.

CORRESPONDENCE.

A Trip to Colorado—2.

[Written for the Press.]
Scenery about Denver.

At Denver I find myself in a favored spot. Here we have fine views of the snow-capped ranges and of prominent peaks far distant, yet easily seen through the clear atmosphere. Of the scenery here much has been said and written. I have been told that, in this respect, the place vies with Berne, in Switzerland. I acknowledge never having visited this last named city, and therefore am strongly convinced that Denver beats it.

And I have some serious reasons for this conviction. Around Denver you can find scenes of rural prosperity and beauty—a fertile soil, a charming climate, coal, iron and copper mines. Some forty miles off, you reach Central City and its gold mines. Georgetown is ten hours distant with her treasures of silver. On the road to the latter place—a beautiful road—in South Clear Creek valley, are cold and warm soda springs, great luxuries for the traveler. Beyond it lies Gray's Peak, said to be 14,245 feet high, the "apex of the North American Continent." You can easily get to the Parks of Colorado, wonderful places; to mountain lakes and peaks too numerous to mention. Not only does the region afford natural scenery which may or may not equal that at Berne, but it also affords many other features of surpassing interest, the existence of which around Berne I am not aware of.

Manufactures.

Denver is a busy place, with manifold signs of rapidly increasing prosperity. I am now writing on paper made in the vicinity, not in Denver exactly, but at Golden (by the Golden City Paper Co.) not far off. Denver imports quite largely from California. I am told that annually \$50,000 worth of California fruits is sent to Colorado, and I see California blankets everywhere.

There are three banks and banking houses here, six churches, a convent, two large seminaries and two free schools. There are two flouring mills, three planing mills, a woolen mill, a foundry, pottery, brick yard, wagon factories, jewelry factories, etc., etc. There are four hotels, the American, Sargent's, Broadwell and Tremont, all respectable, I am told, but the first two of the highest standing. There are gas works for supplying the city with light.

The Denver Foundry and Machine Shop, James W. Jackson, does a fine business in mining machinery, sawmills, flour mills, etc. The Denver Woolen Mills commenced operations last August, with \$50,000 invested in building and machinery. This is known as a 3-set mill, has also 2 blanket looms and 5 narrow looms. It employs 12 hands, and has manufactured goods of the value of \$5,000 in four months. Good Merino wool is worth 28 cents wholesale. I visited the mill, and was pleased with its appearance.

There are three newspapers published here. The *Rocky Mountain News* is the pioneer paper of the country, and is well edited and conducted. The *Colorado Tribune* is an interesting sheet, published daily and weekly by Walker & Woodbury. The *Herald* is a weekly journal.

The U. S. Branch Mint or Assay Office is located here, and its operations are conducted in the most satisfactory manner, under the management of J. L. F. Schirmer.

During the month of June, the Branch Mint received 7,838.54 ounces of gold bullion, valued at \$132,179.03; of silver bullion, 810.22 ounces were received, amounting to \$1,028.92. The total value of receipts was \$133,207.95. The bullion made two hundred and eighteen gold bars, and two of silver.

Stages—Railroads—Items.

Denver is the point of departure of the stages for Georgetown, Central and other mining districts; also to Pueblo, 150 miles south, Trinidad, 225 miles, Fort Lyon, 300 miles, and Santa Fé, 450 miles south.

Four railroads terminate here: the Kansas Pacific, the Denver Pacific, the Colorado Central, and the Boulder Valley. The building of the Denver and Rio Grande, from Denver to Colorado City, Pueblo, Cañon City, San Luis Park, and

finally to El Paso, New Mexico, will give this place a very large amount of trade. All the bonds for the first 80 miles of this road have been sold, rails have been bought in England and shipped via New Orleans and St. Louis, and 1,300 tons are now on the way. The officers of the road are W. J. Palmer (President), R. H. Lamborn (Vice-President), W. H. Greenwood (General Manager) and J. P. Mersereau (Chief Engineer.)

But I might write all day concerning this place. A few items more must suffice. One important article of trade here is coal. It is brought hither from five different mines: Hazelton's, in Jefferson county; Euler's, Briggs', Murphy's and Marshall's, in Boulder county. These are respectively 18, 19, 22, 23, and 25 miles distant. The average price is \$9 per ton. The lumber business is a large one, and there are six large lumber yards here. The total value of Denver manufactures last year is given as nearly \$609,000. Smelting works in the vicinity are talked of. The cattle business is bound to be an important one.

Colorado Agricultural Society.

The Colorado Agricultural Society has grounds and buildings about two miles from the city in a fine location. It has in view the interests of the whole Territory, and the advancement of all industries, mining, agricultural and manufacturing. The first annual exhibition was held here in 1866, and was a success. The next one will commence on September 12th, and continue until the 16th. I predict that this too will be successful, judging from the interest shown here. The officers are as follows: President, H. B. Bearce; Secretary, Fred. A. Clifton; Treasurer, Frank Palmer; Executive Committee, W. N. Byers, G. T. Clark, J. E. Bates, J. H. Veasey, H. G. Bond; Superintendents of Classes—Class A, Agricultural, F. C. Taylor; Class B, Mechanical Arts and Agricultural Implements, E. A. Willoughby; Class C, Farm Products, etc., C. H. McLaughlin; Class D, Horticulture and Floriculture, Chas. Ruter; Class E, Fine Arts, John Armor; Class F, Geology and Mineralogy, Prof. F. Schirmer; Class G, Poultry, Sheep, Swine, etc., M. M. Trimble; Class H, Horses, etc., John E. Force; Class I, Cattle, J. L. Bailey.

W. H. M.

Swamp and Salt Marsh Lands.

EDITORS PRESS:—As there appears to be much more interest manifested in our swamp lands, in the last two years, than, previously, perhaps it would be as well for you to republish an article given by me in 1865 to the *Rural Home Journal*, on the modes of reclaiming such lands, and growing rice in South Carolina, by a cousin of mine who was a large rice planter there.

Trunks and Gates.

The trunks and tide gates described by me have been in use for many years, and have been found to answer the purpose better than any others. The advantage of these is that being hung on upright pivots, ten or eleven feet long, the gate opens and closes with a smaller pressure of water, and is less likely to be obstructed—the pivot rod being above the water does not rust and prevent the gate from shutting close down as the hinges do below the water,—and if necessary to irrigate or flood the lands as has been the case this year on some of the reclaimed tule land on the San Joaquin, it can be done by leaving the outer gate open without the necessity of watching the tides—being self-adjusting. Several years since I gave the plan to a friend, who tried them on the San Joaquin and found them to work very well.

Ditches.

In some cases it may be necessary to make the center ditch under the embankment, but I think from the examinations I have made that the banks of the rivers and sloughs are generally firm enough to omit it. The trouble in the experiments made here, is that the ditches have been too small and the dyke or embankment is placed too near the ditch; the latter should be from 12 to 15 feet wide, and the levee at least ten or fifteen feet from the ditch, and made only sufficiently high to keep out ordinary floods and tides, and with a greater slope on the outside next the river; then sown immediately with timo-

thy or some other good sod grass that would keep the levee firm and solid. The levees here have been built too much like a wall, the sods placed on it like adobe bricks, the peaty soil of which they are composed becomes dry and light, above the water line, leaving large cracks, and are liable to float off on the first flood. I do not think it is policy to levee against such floods as we had in 1862.

Reclaiming Salt Marsh.

The salt marsh around the bays, if properly reclaimed and rightly managed, cannot fail to be very productive. A levee one foot above the highest spring tides will be amply sufficient. During the winter, keep the inner gates closed, flood the lands as often as possible from the rains and with fresh water streams from the up lands; then in the spring sow it down in grass for pastures or hay. In the Eastern States such lands reclaimed and sown with timothy, red-top and clover have produced from a ton and a half to three tons per acre, also good crops of corn, rye, broom-corn, sugar beets and mangel-wurtzel have been obtained. C. D. GIBBS, C. E.

Suspension Chutes for Loading Vessels.

EDS. PRESS:—The great improvement now being made in this vicinity is the suspension chute at Pigeon Point.

This important work has been undertaken by Messrs. Moore and Templeton, the former of your city, the latter of Redwood City.

The "Suspension Chute" is a California invention, and is another illustration of the skill, wisdom and perseverance of the American people in overcoming all obstacles to production and progress.

The bluff shores of California, and the scarcity of small harbors, have been great drawbacks to coast-wise traffic. To this, add the fact that many fertile valleys and valuable forests are cut off from the interior by the "Inner Coast Range," and we readily see that the cost of shipment often equal, if it does not exceed, the first cost of production. This evil is partly overcome by the use of "Suspension Chutes." They have been tried in Sonoma county, and have given much satisfaction.

B. C. Bell, who has built six, and won some reputation for skill and reliability, has charge of the construction of the present one, which is, I understand, the largest he has undertaken to build.

The Mode of Construction.

The work will be 600 feet long, commencing level with the bank, and extending out to 40 feet water. I cannot, without a sketch, give all of your readers a clear idea of the structure, but will give a general description—such as I can with words and figures.

The inner and middle portion of the wharf is built upon frames of various heights, according to the nature of the bluffs. The outer end of the permanent wharf is 50 feet above water, supported by double bents. The three outer, lower bents are let into the solid rock two feet, and tamped with asphaltum. The posts are sheathed by yellow metal for five feet. They are held down and in place by strong iron rods, tightened by turn-buckles. Beyond the outer bent the wharf projects 60 feet, supported by brace work.

The suspended chute is hinged in three nearly equal parts, and is 102 feet long. This is suspended from a boom, which is itself suspended from shears or masts, 77 feet high. All of this suspended work projects 162 feet beyond the self-supporting part of the wharf.

The standing rigging is all of iron. The main braces for tower or shears are 1½ inch wire rope; other braces ¾ inch wire rope. The whole is well supported and braced by wire ropes attached to eye-bolts, let into solid rock. The main eye-bolts are of 3-inch iron, and are let into the rock 3 feet, and leaded. The effort is thus made to form a structure which will keep its place during our southeast storms.

The chute is double—one side for lumber and wood, the other for produce and the truck when unloading vessels. This can be raised or lowered to suit the tides or the size of vessels, which are moored in 40 feet water.

The total cost of construction is estimated at \$10,000. In connection with this work, and by far the most expensive, is a

Wooden Canal

From the head waters of the Gazos creek to the sea board, about 7 miles in length, and a tramway about 1¼ miles in length, leading to the head of the wharf.

This canal is 48 inches in width at top,

and is designed for floating lumber, timber, firewood, etc., to the place of shipment.

Already 5 miles of canal are in operation, and the work will be pushed steadily on to completion. Perhaps a month more will see the chute in operation, if not the completed canal and tramway.

JEIGH ARRH.

Pescadero, July 13.

Half-Moon Bay and Vicinity.

EDS. PRESS:—Your correspondent, "G. W. T. C.," has done Half-Moon Bay and vicinity so well that I have but little to add.

The Grain, Flax, Etc.

There is promise of abundance of oats, a good quantity of barley and some wheat. I have reference to the breadth of land sown, for all the wheat and barley I have seen gives as fair prospect of an abundant yield, as does the oats.

There is quite a field of flax, just on the summit, cultivated for the seed only. No need of the Norway oats in the vicinity of Pescadero. The common oats often carry their heads so high that I can scarcely reach them. If the straws had the strength of bamboo they might do for fish poles.

The great draw-back to cultivating barley in this bottom, is that it must be raised after it is grown, in order to gather it. In some places it is so thick and evenly down that nothing is to be seen save bearded barley heads. One of your subscribers has employed about 200 swine to harvest the barley. I presume but few of your readers ever saw

Canary Seed

In the field. Near Purissima is quite a large field of this grass. There is a good stand on the ground and this year is likely to be quite as profitable as has been the past.

From Pescadero southward, along the coast, for 12 miles,

Dairying

Is the chief business. About 1,500 cows occupy the various ranges—cheese is the principal produce. Steele Brothers have about 700 cows, 300 of which are under their own direct supervision, and the others, on different ranges, are managed by other parties for a share of the product. All the milk of both their home dairies, is this year worked in their

New Cheese Factory.

Here, Mr. and Mrs. Pratt, with one helper, manufacture cheese from the milk of 300 cows. So much for division of labor and the factory system. In this factory there is a storage room for about 60,000 lbs. of cheese. With very little additional help they could manufacture the milk from twice the number of cows.

Steele Brothers expect to make at this factory, this season, 100,000 lbs. of cheese. Their share from other dairies in this vicinity will be about half as much more. On all this range the feed has been unusually good this season.

JEIGH ARRH.

Pescadero, July 8th, 1871.

NEW DITCH IN EL DORADO CO.—That Georgetown is to have a new ditch, says the *Placerville Democrat*, is a settled fact,—that of the El Dorado and San Francisco Canal Co. The new ditch is to be from ten to twelve feet wide on top, eight feet wide on the bottom, and from four to five feet in depth, and will have a carrying capacity of from ten thousand to twenty thousand inches four hundred days without the natural flow; so it will be seen that by filling these reservoirs during the winter when there is an abundance of water, there is no danger but the supply will be ample for the summer, or dry season. The surplus water, we understand, after supplying the entire divide between the forks of the American river, will be taken to Sacramento, perhaps to San Francisco.

IMPORTANT LAND DECISION.—A recent decision of the Commissioner of the General Land Office makes all lands within the limits of railroad grants, upon which a homestead or preemption filing existed at the date of the grant, which have been subsequently abandoned, revert to the Government, and are again open to preemption and homestead. By a former decision such lands went to the railroad companies.

HOME AND FARM.

Permanent Pastures.

Quite too little attention is being given to secure permanent pastures in California. It is true that our dry summers render the cultivation of most of the ordinary grasses out of the question here; but there are varieties of grasses which, by their depth of root, are enabled to survive our driest seasons. We need more experiment in this direction, and what has already been done should be made more generally known. We should be pleased to learn the results of experiments, to the end that we may place such information before the readers of the RURAL PRESS.

Our Oregon neighbors are blessed with a climate more nearly resembling that of the East, and do not, of course, meet with the same difficulty in securing permanent pastures that we do in California; yet they are reaching an economical practice only as the result of much experimenting. A correspondent of the Willamette Farmer gives his experience as follows:—A gentleman asked me, "What shall I sow for permanent pasture, yet with a view of benefiting the land as much as possible." Here in this climate the grasses grow with such luxuriance that it is a question more as to the value of the grass, than anything else. Generally it is best to sow a variety. Yet, here we dread the blue grass, as it is so hard to eradicate if we ever want to cultivate the land. In shaded ground I have found orchard grass of great value, as it will grow where timothy or clover will not. Timothy and orchard grass mixed make a good pasture; the orchard grass starts first and furnishes early feed while the timothy is coming on. For mowing, the orchard grass mixed with red clover, I begin to believe is better than timothy with clover, as orchard grass is already with the clover.

THE AMERICAN POMOLOGICAL SOCIETY will hold its next session on the 6th, 7th and 8th of September, at Richmond, Va. All Horticultural, Pomological, and other kindred societies in the United States and British Provinces, are invited to send delegations, as large as they may deem expedient; and all other persons interested in the cultivation of fruits are invited to be present and take seats in the Convention.

It is thought that the coming session will be one of the most useful in a national point of view that has ever been held by the Society, affording an opportunity not only to examine the fruits of the South in comparison with those of the North, the West and of the Pacific Slope, which is expected will be freely contributed, but also to foster and perpetuate the amicable and social relations which have heretofore existed between the members of the Society, and to widely diffuse the result of its deliberations for the benefit of our constantly expanding territory.

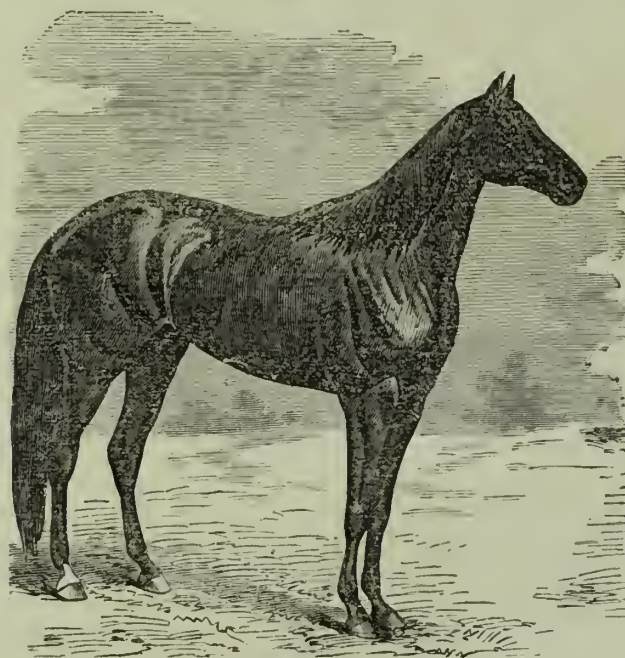
Packages of fruit with the name of the contributor, may be addressed as follows: "American Pomological Society," care of H. K. Ellyson, Secretary Virginia Horticultural and Pomological Society, Richmond, Va. It is to be hoped that the fruits of California may be well represented on that occasion.

A WONDERFUL VEGETABLE PRODUCT.—There is a species of cactus, which grows in Mexico, and in some parts of Arizona, which may justly be ranked among the wonders of nature, and which is thus described by a late correspondent of the *Alta*: It rises in the form of a beautiful fluted column, as regularly grooved from top to bottom as if done by the chisel of an artist. The columnar stem or trunk is about three feet in diameter, and keeps its size and symmetrical form to the height of forty and sometimes fifty feet. The edges of the grooves running perpendicularly from top to bottom of the gigantic plant, are thickly studded with long thorns, hard as steel and as sharp as a cambric needle. Not a limb nor a leaf mars its artistic contour, and were it not for their dark green color and the corona of crimson flowers at their top, one might think them to be the productions of art rather than a natural vegetable growth.

A Novel Fence.

A correspondent of the *Country Gentleman* describes substantially as follows, what seems to be a very durable and very useful fence in certain localities. He thinks the fence will last a century, or until rust eats off inch-iron rods. Large stones of about two feet deep are laid zig-zag along the line of the fence; holes are drilled, and iron rods whose length corresponds to the height of the proposed fence are inserted, and fastened with melted brimstone. Then cedar rails are bored and dropped on to the rods. The fence is made crooked, that it may be stiffer than a straight fence.

It is an excellent fence for land subject to overflows, where ice and logs do not run. The top of the one built by the above mentioned correspondent has been three feet under water often, but is always undisturbed when the water subsides. The rails may be adjusted to any desired distance apart. If the stones are set upon the top of the ground the space between them must be filled in, if it is desired to fence



POCAHONTAS.

against small animals; or they may be so sunk as to bring the bottom rail near the ground.

PLEASURES OF A FARMER'S LIFE.—There is no more noble or independent occupation than that of the farmer; there is none less likely to throw temptation in the way of the young—more conducive to health and long life. If the farmer has to plow and reap, he enjoys directly the fruit of his labors; if he has to hoe and weed the strawberry patch, he enjoys the pleasure of taking the luscious berries, in a condition in which they are never found after being picked and sent to market; so with currants, gooseberries, blackberries, etc.; if he has to prune and care for his apple, pear, cherry, peach trees, etc., he has the satisfaction of seeing them grow, while the abundance of fruitage awaits its proper season. There is no more noble occupation than that of the farmer, if he will only study and inform himself with regard to his business. He has opportunities for studying Nature in her most interesting and useful modes. Do not discourage your children from entering upon this occupation; rather strive to encourage a taste for it. Farming is always pleasant and profitable when properly managed.

SHERMAN ISLAND.—The growth of the crops on this island have been most unexpectedly rapid this season, and the farmers are now busily employed in clearing their grounds preparatory to a second crop of potatoes, which they feel confident will mature before the close of the season.

Celebrated Trotters.—No. 3.

Pocahontas.

A very beautiful bay mare by Ethan Allen, out of the famous Pocahontas, a large, powerful and very high-bred pacer—the best that ever lived. The old mare was a chestnut, with white legs and a blaze, and a patch of white along the belly. She had all the look of a stallion. Her daughter inherited the beauty and splendid trotting action of Ethan Allen, together with a great deal of the power and invincible game of her mother. Nothing can surpass the beauty of this mare as she darts along like a swift, low-flying bird, before a sleigh or a road wagon. She trotted a mile trial in harness, driven by Ben Mace, in 2m. 18s. Dan Mace now has her in hand, he having assured Mr. Bonner that he can make her beat Dexter's time before the snow flies. But he had better first make her beat the time she made when driven by his brother Ben. Many think he cannot do it, but the power and action of the mare are superb; Dan is the eldest of the Maces, and the craft and cleverness

Brown Hay.

The importance of the hay crop is so great that everything which has a bearing upon the subject has an especial interest, particularly at this season of the year.

The following account of the manner in which the Germans make "brown hay" is from a Report made to the Massachusetts State Agriculture Society in 1863, by C. L. Flint:

They prepare in many parts of Germany what is called brown-hay. When the grass is partially wilted, it is collected and spread in layers, and firmly trodden down. It is dried by the heat which is generated in the mow. If the wilted grass is to be thus made into hay, it must be taken when neither too juicy nor too dry. Leaves, heads, and blossoms must remain firmly on the stalk.

In good hay weather, the grass may be cut in the morning, and after being wilted and turned, and after lying six or seven hours, carted in and trodden down. The mow or stack may be from ten to twenty-five feet high. If not high enough, the grass does not generate sufficient heat, and moulds and injures. But if the stack is too high, and the weight too great, the hay may become black and mildewed, because the warmth becoming too great, does not find its way off sufficiently fast. If the stack is put up outside the barn, under a straw-thatched roof, resting on poles, they round it up very much in the shape of our stacks, not less than ten feet in diameter.

To preserve the hay, the treading must be carefully done, so as to get it as firm as possible, and to have it all trodden down uniformly. The firmer it is the better, and this is regarded as of the first importance, since it heats all the more, and the moisture is more completely driven off, till it soon becomes quite dry.

On the top layer of hay, from six to eight inches of straw is spread, that no mould may attack the hay on the top, and that the evaporating moisture passes into the straw. If the work is well done in building the stack, the hand cannot be pressed into the sides. Within a few days, the heat is so much developed that in thrusting in the hand it is very perceptible.

After five or six weeks, the heat is entirely gone, and the hay is very fragrant, and ready for feeding out. It is of a brown color when so treated, and hence called brown hay. In using, it is cut down perpendicularly with a knife, so that it comes off in vertical layers. It is a perfectly healthy and sound fodder, and is eaten greedily by stock.

The advantages of this method of curing hay are—

1st. That even in rather bad weather, the haying is quickly over.

2d. That the hay is more nutritious than that cured in the usual way. It is estimated as fifteen per cent. better. The reason of this is that with the wilted grass all the blossoms and flowers of the meadow grasses and the finer leaves are secured, which in working over in dried hay are, to a great extent lost.

3d. That much less space is required to preserve it, because it is trodden so solid. For these reasons, this mode of curing is adopted in many sections. In this method of drying, where the amount of fodder is short, straw may be placed under the stack, in order to improve the straw by means of the heating whereby it becomes more soft and tender, and is relished much better by stock. If bad weather is feared, the grass may be got in much less wilted, and thus preserved by the mixture with straw. The greater moisture present in the grass is divided uniformly with the dry straw.

Bad, or what is called sour hay, if made into brown hay, is much more palatable to cattle, and all the more if a little salt is strewn over the layers.

Grass usually comes into blossom there, as with us, in the latter part of June or by the first of July, and that is regarded as the most suitable time for cutting it.

ATTENTION FARMERS.—One of our most successful gardeners informs us that the terrible pest, the "cabbage louse," can be prevented from doing damage to garden stuff by following his directions: Boil the leaves and stalk of the elderberry bush, and sprinkle your plants with the water. Commence early, before the lice get a start, and don't be fearful of getting on too much. It is well known that the lice will not touch this bush, there being something about it particularly offensive to them, and as it does not injure the plants in the least, it is well worth the trial.—*Plumas Nat.*

Important Railroad Rumors.

Various rumors have been afloat during the past few days, to the effect that the Central Pacific has bought out the California Pacific Railroad. The suspension of work on several branch roads of the latter company, and the coincident departure of Messrs Latham and Stanford for New York have given rise to much speculation.

There is another rumor that the Pennsylvania Central has purchased both of the above named roads.

We have no definite facts to give in the matter, and the first positive knowledge, should the reports turn out true, would be the announcement of the completion of some bargain on the part of the companies. We notice, however, that advertisements have been withdrawn from the papers for the Yosemite routes, and give the item for what it is worth.

If the reports turn out true, either way, some of our projected railroads will not be completed just at present.

A SURE REMEDY.—One of our Western agricultural exchanges after alluding to the efforts being made in this State to secure efficient irrigation, remarks as follows:—"In this section we avoid the effects of severe drouths, not by irrigation, but by deep ploughing and underdraining. This is our only remedy, but it is a sure one."

AGRICULTURAL NOTES.

CALIFORNIA.

TROPICAL FRUIT CULTURE.—The attention of our horticulturists is being drawn more and more to the semi-tropical fruits, and many of our old orchardists think now that they made a mistake ten or fifteen years ago in preferring the northern fruits. E. L. Beard says that if he were to start his orchard anew at the Mission of San José, he would set out a large number of orange, lemon and almond trees. The orange trees of E. D. Lewelling, at San Lorenzo, are covered with fruit and promise a large crop; and he is so well pleased with his experience in them that he will set out 300 or 400 more next winter. The frost has never injured them seriously in his neighborhood. He has one grafted tree only six years old, and it will yield a large number of oranges this year, and do better than any of his seedlings. The tree does not need irrigation at San Lorenzo. The orange orchards at Los Angeles are suffering with the attacks of the aphid or orange louse, which did so much damage in 1860 that serious fears were then entertained that the trees would be ruined, but they soon afterward recovered and have been comparatively free from insect pests until this year.—*Alta*.

The raspberry crop in Alameda, which usually realizes a large sum, is near a total failure this season.

AN APPLE TREE PEST.—The same paper remarks that some of the apple trees in Alameda county have been seriously injured by the woolly aphid, especially in orchards that have been neglected and allowed to grow up with weeds. The insects, seen from a little distance, look like whitish wool on the branches, and they also collect on the roots which swell up into lumps where attacked.

The best remedy so far found is a solution of two quarts of whale oil soap and two pounds of common potash in a barrel of water, applied with a soft brush on a handle four feet long. A little tobacco added to the solution makes it better, but care must be taken not to put in too much tobacco. The same solution may also be used for the brown bark louse which makes its appearance in Alameda apple orchards, and may be detected by rubbing the finger over reddish spots on the bark, which is covered with a bloodlike liquid from the crushed insects. This species hatches in June and the remedy should be applied in the summer months.

CHICO.—The *Chico Enterprise* of the 8th instant says the work in the grain fields is now in full blast. The farmers have ceased all complaint, and now realize the fact that instead of being cut short, as has been the case in many of the localities throughout the State, they will have a more abundant yield than that of any previous year.

D. M. REAVE'S, a farmer near Chico, has harvested 10,000 bushels of wheat this week. He says the club wheat always exceeds expectation, while other kinds never reach them. His fields will more than reach their large yield of other years.

COLUSA COUNTY will raise hay and grain enough to supply the wants of her citizens. While many will harvest nothing, others will have a surplus. On Stony creek the crops are fair to good throughout the section. Where farmers plowed deep and often, or, in other words, where deep summer fallow was plowed more than once, good crops have been secured.

The *Sun* says there can be no excuse for the failure of crops in that county, as the Sacramento river affords the facility for furnishing moisture to the grounds of all that county.

THE CROPS IN LAKE COUNTY.—The *Lakeport Avalanche* of June 24th says: The farmers of this county are in fine spirits, owing to the splendid prospects of a rich harvest. There will be more grain raised here this season than was ever known in this county before. Farmers who have lived here for the past fifteen or sixteen years tell us that they have never known a failure of the crops in this county.

SONOMA COUNTY.—In the Montezuma Hills, Sonoma county, and on the plains, but little grain has been raised, but in Suisun, Vaca and Green Valleys there will be an average crop.

BLOODED HOGS IN SONOMA.—Some four months since, says the *Sonoma Democrat* of July 15th, James P. Clark, of this place, sent an order to J. S. McCreary of Canton, Fulton Co., Ill., for two young pigs of the Poland-China breed. They arrived on Monday of last week, by express, in good condition, considering their trip. They

cost Mr. Clark \$40 each in Ill., though but three months old; the expressage out was \$60 in addition.

BUTTE COUNTY.—The *Oroville Record* says that the crops around Butte creek will turn out from 25 to 35 bushels to the acre.

THE HENDEE VINEYARD.—The editor of the *Record* has recently paid a visit to this vineyard. The grapes that were intended for raisins have been almost totally destroyed by the late hot winds. It is hardly possible that one hundred pounds will be secured where several thousand pounds were anticipated. The remainder of the grape crop will be equal if not superior to last year. The apples and peaches are splendid, and in about another week will be in great abundance. The figs are the finest in the country, and the present crop, being the second this year, will excel the first. The blackberry patch was a treat for anybody's eyes. We have never seen a more flourishing patch of berries anywhere. They are in a high state of cultivation, and Mr. Hendee expects to sell upwards of eight hundred dollars worth of berries the present season.

MONTEREY—THE CROPS.—The *Democrat* hears good reports from the farms with regard to the harvest. Wheat is turning out well.

THE SUGAR BEET.—The same paper says that at the proper time, seed was distributed among farmers on the Salinas plains, to test the culture of the plant thoroughly.

The *Castroville Argus* says returns of the yield of crops is beginning to come in on De La Torre's ranch, one large field has yielded a ton of barley—within a few pounds of 24 bushels—to the acre. This land is near New Republic.

Thirty-five acres of volunteer barley on the Cooper ranch, just across the Tembladera from this town, and owned by F. D. Hall, give sixty-four bushels to the acre.

From about twenty-three acres of barley on the Castro ranch, which were plowed to a greater depth than ordinary, Charles E. Williams gets over fifty bushels to the acre.

Wm. Baxter we hear gets something over sixty bushels of barley to the acre on his place adjoining town.

These are the reports already made to us, but we hear of crops that will, it is estimated, run over these figures, and we are sorry to say that on the Cooper ranch in this vicinity, and in many places above it there are many crops not worth threshing, and some not worth cutting at all.

FINE OATS—IRRIGATION.—Mr. William B. Gibson, a mile south of Woodland, has a field of Norway oats which he expects will turn out 40 bushels to the acre—the result of irrigation. Other crops on the same farm which were not irrigated dried up and amounted to nothing.

SAN JOAQUIN COUNTY.—The sum of \$931.50 was allowed in a single day, by the Supervisors of San Joaquin county, as bounty money for squirrel scalps—L. Howard received \$567.65; four others parties received respectively \$84.90; \$45.95; \$36.95; \$30.00. Thirty-five other parties received the balance, in sums of from \$2.50 to \$14.45.

LARGE quantities of wheat are now being hauled to Stockton from the surrounding country somewhere—from which it would appear that some of the farmers in that part of the State have realized a surplus of grain.

KERN COUNTY.—The *Bakersfield Courier* has seen a sheaf of wheat composed of three varieties, grown in the Barnes settlement, equal to any ever produced in the early days of California in the most favoured localities of the coast counties while the soil was yet virgin, which the editor was assured comprised only average specimens of the products of fields not irrigated.

FINE GRASS.—The *Visalia Delta* has seen samples of Hungarian grass in that vicinity three feet high, with heads like grain, and which will yield three tons of hay to the acre.

SECOND CROP IN FRESNO.—The *Fresno Expositor*, July 12th, says the farmers on King's river have gathered their wheat and barley crops and are now engaged in putting corn on the same land for a second crop. This is done by irrigation, and furnishes additional evidence of the value of the same.

SACRAMENTO COUNTY—TALL RYE.—Thomas Orn of Salmou Falls, says the *Folsom Telegraph*, has a splendid looking field of rye, some of which stands 6 ft. 9 in. high! A portion of the crop was planted on new land, supposed to be of little value—and that portion is the best.

OREGON.

PRICE OF WOOL IN OREGON.—The Willamette Wool Manufacturing Co. and other wool buyers in that region, are paying 35 and 36 cents (currency) per pound for wool.

The woolen mills near Steilacoom were sold a short time ago at Sheriff's sale for \$16,000. They will probably be started up before long.

HEAVY TIMBER LAND.—Within two miles of Olympia, says the *Transcript* of that place, many acres of land can be found which will yield 250,000 feet of lumber each.

HIGH WATER.—The high water in the Columbia the present season reached within eighteen inches of the rise of 1862. Much fencing has been swept away, some cattle destroyed, and the vegetable crops on the bottoms submerged. The water has now fallen several feet, and has done all the damage it will do the present year. Some of the best vegetables produced on the bottoms are planted after the rise.

FARMERS' MEETING.—The *Republican* contains a call for a public meeting of the farmers of Polk county, to be held at Dalles, July 15th, for the purpose of establishing a farmers' organization, to secure and promote the best interests of the agriculturist. Col. Nesmith, Hon. Ben. Hayden, and other able speakers, will be present.

FIRES.—The forests about Kalaina have suffered much from recent fires. One meeting house has been burned, and at one time the entire town was seriously threatened with the devouring element. The town was but lately nearly drowned out by the floods, and now comes the fire.

PROLIFIC.—M. M. Hunter, of Mount Taber, Multnomah county, writes to the *Willamette Farmer* that he has a cow four years old this spring, which has given birth to five calves in less than two years, having had two pairs of twins.

The crop prospect in Umpqua valley is flattering.

RAILROAD LANDS.—On and after October 15th, the lands of the California and Oregon Railroad Company will be thrown into market.

FINE GOODS.—The *Plainedealer* has been shown a single blanket, woven by the Oregon City Woolen Mills, which is really a curiosity. It is of a delicate shade of brown on one side, while it is white on the other, and weighs 11 pounds.

WASHINGTON.

The Walla Walla Union entreates land holders in that section of the country not to put up the price of land to such an extravagant figure as to scare away new comers. The same advice is pertinent to many land owners in the agricultural portions of this State.

WAGON TIMBER.—Excellent wagon timber is found near Vancouver, in Washington Territory. It consists of a superior quality of oak. On Salmon creek, a few miles from Vancouver, Mr. Louis Leiser has a mill in operation, and will make a specialty of wagon timber. The ash in that region is also of a superior quality, and the oak is believed by competent judges who have examined it, to be the very best. All this timber needs is careful seasoning, to make it equal, at least for farm wagons, to the best eastern timber. The cedar in the same region is very fine. A board three feet wide without a knot is no unusual thing. It is time for our people to encourage the development of such important interests. It is probably true that most of the hard wood that grows about Salem is brash and of very inferior quality. But we should not for that reason be sending 2,000 miles away for an article that may be obtained within less than 100 miles.

JOHN DAY VALLEY.—A gentleman writes the *Mountaineer*, from John Day Valley, as follows:—Grain of all kinds looks better than ever before at this season of the year. Grass is superabundant, and stock of all kinds are in the finest condition. The miners have an abundance of water for mining purposes and everything indicates a future prosperity excepting the low price of grain.

The farmers are much incensed against the local government contractors for their opposition to each other, thereby destroying the best interests of the country. Hereafter the farmers propose turning their attention to the raising of wheat.

IDAHO.

The *Idaho Democrat* says the farmers of the valley have recovered from the disappointment produced by a cold, backward spring, and after taking a new view of things have come to the conclusion that their crops

will turn out almost equal to the average yield. The grain has headed out plump and beautiful, and vegetables of all kinds are looking exceedingly well. In the earlier part of the spring it was thought Idaho was indeed an afflicted land—we had a few severe frosts and hot winds blew occasionally and sapped up a little moisture.

SAXONIA BARLEY.—The new variety known as Saxonia barley, obtained from the Agricultural Bureau last winter seems likely to prove a good winter grain in Idaho. This year he left a part of the stubble undisturbed, and he has a fine volunteer crop now in head. He thinks it will prove a valuable grain to the farmers of this valley, because, if it can be sown in the fall it will materially relieve the crowded spring's work.

GRAIN ON ALKALI SOIL.—The same paper says that grain sown in soil impregnated with alkali and properly cared for yields larger, and that the alkaline substance proves beneficial, and not detrimental to growing crops. That is the experience, at least of Mr. Wyatt, of Dry Creek, and was proven very satisfactorily to him last season.

COLORADO.

COLORADO WHEAT.—The *Denver Tribune* says the Colorado people think the wheat raised in that territory is superior to anything which they can buy elsewhere.

The last crop was not sufficient for the home demand; but it is hoped the increased breadth of land sowed this season will furnish an ample supply. The mill facilities are ample for all demands for flour.

Attention is called to the Colorado foothills as desirable locations for people from other districts desiring permanent homes for profitable agricultural pursuits. There, as in California, the mountain farms possess many important advantages over those in the valleys—among which a good and ready market is not an unimportant one.

SUGAR BEETS IN COLORADO.—The *Tribune* says Peter Magnus has been experimenting, most successfully, with the sugar beet. His crop last year, and so far this, is all that could be desired, and he considers it certain that the cultivation of the sugar beet and the conversion of its juice into sugar will prove a success in that territory.

DROUTH.—The *Caribou Post* learns that the drouth has seriously effected the crops to the south of Denver.

The same paper says the old settlers pronounce the present the driest season known since '62. Some fields of wheat are suffering for want of rain. Corn generally looks well. The scorching sun, the cloudless days, and the drying winds, are beginning to injure the crops, and cause fears of great scarcity of hay. All the smaller streams are drying up. In many places the new grass is prematurely turning into cured hay, and farmers say that a few more weeks of drouth would dry it up so that fires would run over the fields.

UTAH, ETC.

CROPS IN UTAH.—Our agent, Wm. H. Murray, writes from Ogden that the crops look well in that vicinity. The corn is from 4 to 6 feet high, and the grain looks well. This promises to be a good year for the Utah farmers—after two years of short crops. Our readers will find some very interesting notes from Utah on page 44 of present issue.

CROPS IN CARSON VALLEY.—The *Register* says the crops in the lower portion of the valley are a little under the average, but those of the upper valley are looking well. Even in the latter locality, however, the yield will not be as great as in some previous years, but the quantity of grain will be far greater, as more was put in the ground.

Early potatoes were nearly all killed by frost, but the potato crop, nevertheless, will be quite a heavy one.

MONTANA.

Large numbers of farmers and stock raisers are passing northward with stock from Eastern Nevada and Western Utah into Montana. The most of them are going, as emigrants, to settle. All the mountain valleys in the lower portion of Montana are thus being filled up with a permanent population.

DEER LODGE.—The farmers in Deer Lodge valley and county have planted largely this season with all kinds of crops, and the only fear they have for the result is from grasshoppers, which have not yet shown themselves; but as we understand the geography of the country they have made their appearance some distance to the south, near the Utah and Nevada State lines.

THE SWINE YARD.

Pig Breeding and Feeding.

Mr. Mechi contributes to an English paper the following interesting article on this subject:

The same rule applies to pigs as to other farm animals—choose a good breed, especially in the male parent. Where there is a great natural tendency to fatten in a breeding sow, "let her work hard for a living; don't feed her bountifully, or she will get fat and have no pigs, or very few," but remember that the kind of food you give her is a most important consideration. The fetus cannot be properly formed unless the materials are of the right sort, for there must be the elements of bone, muscle, and fat—the latter alone is of little use; therefore, avoid the fatal mistake of giving to the sow a large quantity of roots before parturition.

The same mistake is often made with sheep and cows. If a sow is allowed to range at large, she does well, having access to pasture, because in a good pasture we have a great variety of plants, possessing various and valuable qualities—aromatic, condimental and others, generally available to the juvenile formation and development, which the natural instinct of the animal teaches her to select. This may be supplemented by bran, a little meal, boiled potatoes, and a few white turnips, but very few mangolds, especially when fresh and succulent. A moderate supply of peas, beans and barley, or soaked Indian corn, may be added; also clover and green beans with the pods on. Cabbage is very safe food. Nothing comes amiss to a sow. The great point is to take care that the food should consist of a variety, and not, as is too often the case, confined to one sort, especially roots.

After Parturition.

Roots may be much more liberally given, and especially cabbage, in conjunction with other food; but as the period of parturition approaches, and especially immediately after parturition, to guard against fever, the diet should be sparing and cooling. I know some who invariably give an ounce of Epsom salts in the liquid food to the sow after parturition. After recovering from the excitement, the necessary materials for milk-making must be contained in the food. Cottagers are often successful with their sows, where they have a chance of roaming in lanes and coming home to receive a little meal, boiled potatoes, pot liquor, vegetables, etc. In cold weather, warmth and shelter are essential.

Young pigs, when taken from the mother, should have a little meal, and a variety of food, but especially skimmed milk with fine pollard or middlings; as they grow older, peas, soaked Indian corn, etc. A few roots and green food are always acceptable.

For Fattening Pigs,

nothing beats one-third pea meal and two-thirds barley meal; if mixed with skimmed milk, so much the better. Pigs may be fattened very rapidly by steamed roots mixed with meal or boiled potatoes, the food given warm. Although bulky looking, they will not weigh so well, or eat so well, as those fattened on pea and barley meal, with or without milk. I was very successful in fattening pigs or large hogs in hot weather by placing them on sparred floors with a pit under them. There is a natural tendency in pigs to huddle together; if placed on soft barley-straw there is no circulation of air under them; therefore stiff reedy wheat-straw is much to be preferred. They get fever in hot weather, unless there is circulation of air around them, and plenty of water. The latticed or sparred floors have an immense advantage in this respect. The urine all passes through and away, and they lie clean, cool and dry, with air circulating around them. Pigs naturally deposit their solid excrement in a corner away from their bed.

I fattened about 400 pigs, and was always very successful in avoiding disease; they were all placed on sparred floors. In hot weather we showered upon them occasionally from the jet about 80 gallons of water per minute. After the first alarm they enjoyed it. Their skins became as clean as the back of one's hand, and they fed and prospered most satisfactorily. It pays to give a pig when he first comes from market a good scrubbing with soap and water.

Fat pigs in the country sell well at, and immediately after harvest, also at hosing

time. Pigs, like other farm animals, should always have access to water, also to a lump of rock salt. Bear in mind that pigs have no wool, and if well bred very little hair, therefore they require warmth, if you desire to economize food and produce fat. As sows are very apt to overlie their young, this is easily prevented by a ledge or board of about 8 inches wide, projecting from the wall of the piggery, 6 to 7 inches from the floor. The little pigs are safe from pressure under this ledge.

The Berkshire Hog.

The Berkshires are a very popular and profitable breed of swine. They are a good size, fatten well in proportion to their feed, and are excellent breeders. No one will go amiss by purchasing a Berkshire.

A very great change has been produced in this breed by frequent crossings; and most likely a decided improvement. Youatt and Martin, say: The Berkshire pigs belong to the large class, and are distinguished by their color, which is a sandy or whitish brown, spotted regularly with dark-brown or black spots, and by their having no bristles. The hair is long, thin, and somewhat curly, and looks rough; the ears are fringed with long hair round the outer edge. The body is thick, compact, and well formed; the legs short, the sides broad, the head well set on, the snout short, the jaw thick, the ears erect, the skin exceedingly thin in texture, the flesh firm and well flavored, and the bacon very superior.

The Berkshires are not generally of an enormous size. Their ordinary weight will average from 250 to 300 pounds, and some at two years old will weigh 400 pounds. This is the most convenient and profitable weight for general use.

There have been numerous crosses made on this breed. The principal ones with the Chinese and Neapolitan swine, by which an improvement in the flavor of the flesh, the color, and the size, has been attained. A cross with the Suffolk is much approved, and probably makes the finest animals of any imported into this country. They are hardy, fatten well, have short smooth hair, and are a beautiful black and white color.—*National Agriculturist*.

HOG FODDER.—A correspondent of the *Journal of Agriculture* writes as follows: I have never seen any distinction made between growing fodder for cows and hogs, and one might suppose that there is none; but there is quite a difference. Any close observer will see that cows eat the blade first and then the stalk. With hogs it is the reverse; they look for nubbins first, then the stalk, and last the blade (if at all). My experience is this: If I meant to feed to cows, I would sow about forty grains to the foot; if it was intended for hogs I would sow about twenty to the foot. Where it is sown about twenty to the foot, every stalk will have a nubbin on it, which is quite an item.

NATIONAL SWINE EXPOSITION.—Among the other novelties of the day, our western friends have concluded on a great national swine exposition, to be held at Dexter Park, in Chicago, on September 19, 20 and 21, 1871. All the different breeds—White Chesters, Large Yorkshires, Cheshire, Poland China or Magie Essex, Berkshires, Suffolks, etc.

The premiums are large and attractive; \$1,000 is offered for the best display of hogs of any one breed, not less than ten or over twenty; also several premiums of \$100 and \$200 each.

FEEDING SWINE.—Give pigs plenty to eat while they are young, as it will pay twenty-five per cent. more to feed them than at a more advanced age. Strict regularity in feeding is recommended; hogs fattening should have just what they will eat and no more; be fed three times a day, and be kept where they can get clean fresh water. To make the greatest amount of pork in a given time, obtain the best breeds—such as will not break down on a plank floor—keep their pens clean, and feed regularly three times a day until ten months old, when they should weigh 400 pounds.

CAUSES OF DISEASE IN SWINE.—L. W. Stuart, in an article upon hogs, expresses the opinion that the great causes of disease among this class of animals are the want of improvement in breeding, breeding in-and-in, and breeding too young, impairing the physical qualities of the animals and rendering them unable to endure the hardships to which they are exposed, from lack of care and protection.

CATTLE RAISING.

Raising Calves at an Agricultural College.

The London *Milk Journal* tells how stock is raised at Hohenheim. The rules laid down at this great agricultural college are that it is best to rear calves entirely by hand so as to have less trouble with both the cow and offspring, and the quality and amount of food must be regulated as follows:

| 1st week, daily, 12lb milk. 0lb oatmeal. 0lb fine hay. | 2d | 3d | 4th | 5th to 7th | 8th week | 9th | 10th | 11th | 12th | 13th |
|--|--------------------|--------------------|------------------------|------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------|
| " " " 16 " 0 " 0 " | " " " 20 " 0 " 0 " | " " " 22 " 0 " 0 " | " " " 22 " 1/2 " 1/2 " | " " " 21 " 1/2 " 1/2 " | " " " 20 " 1 " 1 " | " " " 16 " 2 " 3 " | " " " 12 " 2 " 6 " | " " " 8 " 2 " 10 " | " " " 4 " 3 " 10 " | |

In the ninth week the milk is first mixed with water and a little fine oatmeal. The meal is afterward mixed with dry fodder. After three months the milk is withheld, and then the young animal receives daily, till two and a half years old, from twenty to twenty-two pounds of hay or its equivalent. But the calves never after receive, even in summer, any dry food till they are nine months old. The average feeding is so divided that the younger portion receive less, the elder more, till two and a half years, when they begin to receive the regular rations of the older cattle, including the regular grain fodder, as indicated above. The growth with this treatment is so remarkable, that it is only a little surpassed by the rapidly maturing short horns.

| Average weight of calves at 3 months | Heifers. | Bulls. |
|--------------------------------------|----------|--------|
| " " " 9 " | 231lb. | 353lb. |
| " " " 1 year | 351 | 472 |
| " " " 2 " | 640 | 726 |
| " " " 3 " | 1184 | 1300 |
| Daily increase of calves,..... | 1.5 | 1.8 |
| " " " in second year..... | 1.4 | 1.5 |

The college whose management of young stock is given above by the *Milk Journal*, was established in 1818, by King William, on the Roville estate in Hohenheim, Wurttemberg.

Change of Cattle Feed Necessary.

Man, when confined for any considerable length of time to one kind of food, is more liable to disease than when his regimen is varied. The disease common among sailors on long voyages is an illustration of this.

Now, what is true of man, is true of the various species of domesticated animals. When confined for an undue period of time to one kind of feed they sicken and die. For cattle, nature has furnished a variety. In summer, the different kinds of grasses, with their rich juices, tempt their tastes, and improve their flesh. Yet even then, we obtain an argument for a variety of feed, from the fact that cattle, fed with grain, or other vegetables, put on flesh more rapidly than when they are kept on grass alone. But in the winter our ordinary dry food is not conducive to growth as are the summer grasses.

"Fodder," as it is termed, has lost much of its original properties in curing. The defect, in part, may be supplied by roots of various kinds. Among these, turnips, carrots, beets, and the like, have their value. But these, or something of the kind, should be provided as a variety of winter stock. Farmers should look to this, and see if the best cattle, and the best folds of sheep, are not those which are furnished with a variety of feed during winter confinement. Would you have good stock?—then have a variety of winter feed.—*Boston Cultivator*.

VALUABLE CATTLE.—Mr. Sheldon of New York has refused an offer from Mr. King of Minnesota, of \$36,000 for three heifers! On the same day, Mr. Sheldon was offered \$63,000 for five cows, the choice of his herd. Short-Horns have never before in this country or elsewhere, had such prices set on them, and we are justified in arguing from such offers, an increased demand for this class of stock at largely enhanced prices.—*Home Journal*.

HOW MUCH FEED FOR A POUND OF FLESH. An English chemist and agriculturist has calculated that to obtain a pound of flesh on domestic animals the following quantities of either of the various kinds of food mentioned below must be used: Turnips, 100 pounds; potatoes, 50; milk, 25; oat meal, 9; corn, 8½; barley, 7½; peas, 3½ and beans 3½.

THE APIARY.

Beekeeping Experiments in Washington Territory.

A Puget Sound correspondent of the *Williamette Farmer* gives his experience in beekeeping as follows: "This has been a most excellent season for honey, but we are likely to have trouble with our bees over-swarming. Years ago we tried Quinby's low hives with movable frames, and failed, in part for want of discretion, and in part because his hive is not entirely suited to this climate. This climate, always cold when night comes, should have hives with greater light, and also be well protected to retain the warmth during the evening. He that would discard the movable frames because some have failed with their use is about on a par with those who would reject all threshing machines because one in the hands of an unskilled manager does poor work. Depend upon it—that bees properly managed with well constructed hives can be made to succeed well, the predictions of "old style" persons to the contrary notwithstanding. I never had an artificial swarm leave me, although have lost some from being weak. There are seasons when thirty per cent. of natural swarms go to the timber and are lost. If judgment is used in dividing them we are certain to gain, and save what we get. Just do not be in too much of a hurry to increase the number of your swarms, recollecting that one good swarm is worth half a dozen poverty stricken, weak ones, and you are half way on the road to success in bee raising."

Why Farmers [Should Keep Bees.

Honey and wax have ever been two most useful articles in domestic economy, and from the earliest times, the honey-bee has been the companion of man. What an addition to a farmer's house is a bee-hive, nestling among the apple trees with its hundreds of busy inhabitants, some setting about the door, or flying lightly above the roof, others darting off in quest of new supplies of food, and still others returning on laboring wings laden down with their "baskets" filled with crude pollen! What a scene of industry and system is bee-life! This is an every-day picture. But honey and wax are not indispensable. The hunting of the sperm whale and the discovery of petroleum have done away with the need of wax, and the sugar-cane and beets give us sweets in new and more convenient forms. What use, then, is the bee? our reader will ask. The answer will recur to but a few. The grand use in nature of the bee is the securing to the farmer or fruit-raiser a good crop and the permanence of the best varieties of fruit.

Gardeners have always known that bees fertilize squash, melon, and cucumber flowers by conveying the pollen from one plant to another, thus insuring not only the complete fertilization of the seed by the male pollen and thus improving the fruit, but actually causing the production of more squashes, melons, and cucumbers by causing certain flowers to set that otherwise would have dropped to the ground sterile and useless. This has been proved by fertilizing the flowers by hand; a very large, indeed an unnaturally abundant crop being thus obtained. It has been noticed by a few, though the many have not appreciated the fact, that fruit trees are more productive when a swarm of bees is placed among them; for when the bees have been removed by disease or other means, the fruit crop has diminished.

ARRESTING ABSCONDING SWARMS.—A correspondent of the *Amr. Bee Journal* says: "My Impression is that the old fashioned practice of tanging proceeds from a correct idea; that is, that a swarm will always alight when thoroughly alarmed, so as to disconcert them. The past season I used a large mirror and stopped by that means a swarm, which I had hived a few days previously, and which started to go off. I ran after it, flashing the sun's rays among them most thoroughly—the mirror being fourteen by twenty inches square. I stopped them on the last tree in the vicinity, and in five minutes had them nicely hived. I frequently stopped them by throwing water, chips, or dirt among them when starting to leave."

POPULAR LECTURES.

[Concluding address before the MECHANIC ARTS COLLEGE. By Rev. Horatio Stebbins. Reported expressly for the Press.]

The Theory of Common Schools Established by the State—Some Misconceptions, Social, Secular and Religious, Concerning Them.

You are, said the lecturer in commencing his address, not merely pupils of nonage, but you are citizens on whom the State imposes duties and obligations. Many of you are heads of families, and the education of your children becomes an object of increasing importance as they come forward to the responsible conditions of life. It may therefore be deemed not inappropriate to speak to you to-night concerning the principle on which our school system rests; for a clear conception of this places the citizen firmly on his feet.

The Principle on Which the State Supports Public Schools.

The Public School is founded on the well-established principle that Government may assume and exercise powers for the public good. This principle is identical with the very idea of civilized society, and is involved in almost all the benefits of social order. In the regulation of commerce, the coining of money, the building of roads and bridges, paving, lighting and cleaning the streets of a city, improving harbors, building light houses, establishing hospitals and asylums, levying taxes and military service, Government displays its power for the common good. It is not for individual good, but for common good. Government has no right to enforce what is best for the individual in his individual capacity, nor to seek the individual welfare save only indirectly through the common welfare.

Popular ignorance is the deadly foe of freedom. Liberty has gained power and place on earth through the growth of intelligence. Ignorance is fit only for oppression, tyranny and wrong. Freedom lays positive duties which ignorance cannot perform. Therefore ignorance is an injury to the State; it is garbage in the streets of the city, it is an impassable road in the country, an epidemic, a nuisance. By a principle as plain as that by which the Government compels the unhappy victims of contagion to be cut off from society, or sweeps the streets, or builds bridges, it may require that ignorance be removed. It has nothing to do with ignorance as it affects the man himself, but as it affects the common good.

Thus the State, imposing obligations which intelligence alone can discharge, is bound to supply the means of the intelligence, on the same ground that, requiring military service, she is bound to furnish implements of war. Therefore the State establishes schools and offers the advantage to all. The only thing needed to carry out the principle and interest of the State is a provision, already made in some portions of the country and attracting attention everywhere, against neglect and truancy, requiring that all children not provided with the means of education by their parents, shall attend the public schools. This would complete the system.

Immense Social Value of Public Schools.

Thousands have no conception of the real foundations of the public school, or of the rights of the State, and feel that education, being free to all, is free to be let alone. And this opinion is not confined to any one class or condition of society. There are those who feel that they are at liberty to allow their children to grow up in ignorance, if they choose. Whereas the theory of a free State is, that ignorance is a perpetual standing menace to the public welfare, a social and political nuisance, a dead obstruction to the peace and dignity of the commonwealth. Omitting altogether the relation ignorance has to crime, outrage and violence, it is incapable of discharging the positive duties which the State enjoins upon its citizens. The immense social value of the public school, when carried forward to realize the principles upon which it is founded, is not easily comprehended, because its results are remote and not exclusively material. But it is no exaggeration to say that the Board of Health cannot so promote the public welfare as the Board of Education. Ignorance is only a more intellectual nomenclature for the most pestiferous conditions of sewage, nuisance and miasma. The reply of thousands of men of the highest educational experience, of different sects and professions, to questions propounded by Horace Mann as to the result of the highest development of the common school system, with the best teachers and the attendance of all children during the years appropriate to pupillage, was, that if the system should be thus developed *not two per cent.* of the rising generation of the people would fail to be good citizens.

Public Schools are Not Charities.

There is another fallacy. We sometimes hear the public school system spoken of as a charity, and the man who has no children contributing to educate other people's children. It is no more a charity than is a bridge, or a road, or a street lamp. There is a superficial yet specious statement that runs like this: "A is a man of property without a family; B is a man of family without property. Why should

A pay taxes to educate B's children?" For the same reason that he should pay taxes to light the city. And it is not for B's children in either case, but for the common good. It might just as well be said: "Why should B, who does not keep a carriage, pay taxes to pave a street for A, who does keep a carriage, to drive on?" Taxes are moneys exacted from property chiefly to pay the expenses of social order. The chief expenses of social order are for the protection of the rights of property. Therefore it is just that property, and not persons, should pay the taxes. And it is no more unjust for a man without children to pay taxes for the schools, than it is for a man without a carriage to pay taxes for the streets.

Religious Education in Public Schools.

As is most natural and to be expected, a warm discussion, arising chiefly with the Roman Catholic church, is now going on with regard to the religious character of the public schools. Although there is at present a lull in the discussion, it is not to be assumed that the questions involved are decided.

The ground of the Catholics is, that all schools ought to have religious education connected with them; that a school of any kind in which religion is not taught, is a godless school. Holding these views (and some other sects hold similar ones), they claim that the moneys raised in the State for public schools ought to be divided among the sects; or, at least, that those who insist on religious education should be allowed their share. This amounts to breaking up the present system and establishing another which may be properly called the sectarian system.

Religious Education Does Not Belong to a Public School.

The true correction for this and the proper reply are found in what I believe to be the fact that the public school is not, never should have been, and never should be, a religious institution at all. With the progress of liberty, the State exists independently of the church. Its purpose is to make intelligent citizens, not Christians. This latter is a matter of private, domestic conscience. All religious instruction should be left to the family, the Sunday-school and the church. This is best for religion itself. Nothing produces indifference more surely than the attempt to force religion in mechanical and unnatural methods. And it is unwise and unjust to enforce doctrines on those who object to them. As to calling the school godless because the Bible is not read there, you might as well call your place of business godless because the Bible is not read there.

Religion is a home sentiment, and not of the school. God himself has seemed to make this distinction in the very frame of our being and our earthly lot. All cannot teach their children intellectually, but all can teach them religiously. Religion is not taught by exact methods, but by divine influence, the temper and spirit of a household, a mother's loving care. A boy cannot have his business training in his father's house, nor his religious training in the public school. To turn children out into a public school to be taught religion is bereaving them of their birthright and heavenly privilege.

Sectarian System Financially Impossible.

Let us see what this demand means. The State is required to divide its moneys among the religious sects under the specious plea that it tolerates all and cherishes all. I emphasize that: *tolerates all and cherishes all.* But this tolerant condition defeats itself, inasmuch as it diffuses and dissipates the public money and so increases the expense of education, by increasing the number of educational centers, that practically very many would be deprived of their benefit. And who is to determine about the sects? Even within the limits of Protestantism, what standard would you erect to determine the rights and apportion the funds to the religious classes of society? The State could not give the sects money enough to make a school for each one. The distribution of the public moneys among the sects is an absurdity. It cannot be done.

Sectarian System Means Church and State.

But suppose that society would divide into simply Protestant and Catholic, which is really what is wanted. Suppose that the Romanist should be let off on religious grounds and take with him his share of the funds. What does that logically end in? Here is a school, and a system of schools, supported by the State on religious grounds; that is, endowed by the State. If a school may be endowed by the State on religious grounds, then a church may be; and if a church may be, then a priesthood may be; and that all together means Church and State. There is no logical middle ground between a school thus sustained and the hierarchy thus sustained. To suppose that the American people intend to do any such thing, or make a beginning of any such thing, seems quite absurd, when England is trying to relieve herself of that incubus after an experience of centuries.

And look at it on other grounds. It is proposed to instruct on the church theory. The State and all good citizens whose money is thus expended, have a right to enquire into the ability and fitness of the church to educate persons. The church has never made a free State. Those countries now most directly under her influence display no particular fitness for popular liberty. American citizens may certainly be excused not only for their unwillingness to set up this power of the medieval time here in the new world and the modern age, but for their suspicion of its sympathy with freedom.

GOOD HEALTH.

Dyspepsia.

This is the scourge, perhaps the sin, of the American people. It is caused, in the most common cases, by eating improper food, in improper quantities, and at improper times. O. P. Ford, of Oswego, New York, gives his experience in the case, which may be made a benefit to some who are suffering from this terrible complaint. He says:—"Many of the pies, the cakes, and the puddings we take into our stomachs, if spread on the outside, would cause a blister; and still, to please the palate, we take them down, and expect to enjoy good health? The stomach grinds on, and continues to work over this unhealthy mass of food, until it gives out, and we call it dyspepsia."

"Now, then, when the digestive organ becomes thus weakened, blistered, and sore, the best thing to be done is to poultice it on the inside by eating, slowly, something that will soothe and heal. This may be bread and milk; corn starch, boiled in milk; eaten with a little cream and sugar; boiled rice and milk; eggs cooked in water, and rarely done; and, if the bowels are sluggish, bread made from Graham flour must be used, and all irritating substances must be avoided. No liquids should be used while eating, such as tea or coffee, as all fluids weaken the gastric juice of the stomach."

"I have received," concludes Mr. Ford, "the greatest benefit from a bandage wet with cold water, laid on my stomach every night. It may be applied by taking a linen towel and doubling it in size, to cover the stomach and region of the liver, wetting it in cold water, and wrapping a dry one over it. This treatment must be persevered in; for we did not take the dyspepsia in a day, neither can it be cured in a day."

Some of our friends are suffering much with dyspepsia. The remedial agents recommended by one who has been "a fellow sufferer," are easily obtained; and as they have been successful in curing one case, they may be in others.

Good Health as an Element of Success.

It is no exaggeration to say that health is a large ingredient in what the world calls talent. A man without it may be a giant in intellect; but his deeds will be the deeds of a dwarf. On the contrary, let him have a quiet circulation, a good digestion, the bulk, the sinews and the alacrity, the unthinking confidence inspired by these, and, though having but a thimbleful of brains, he will either blunder upon success or set failure at defiance. It is true especially in this country, that the number of men in whom heroic intellects are allied with bodily constitution as tough as horses'—is small; that in general a man has reason to think himself well off in the lottery of life if he draws the prize of a healthy stomach without a mind, or the prize of a fine intellect with a crazy stomach. But of the two, a weak mind in a herculean frame is better than a giant mind in a crazy constitution. A pound of energy with an ounce of talent will achieve greater results than a pound of talent with an ounce of energy. The first requisite to success in life is to be a good animal. In any of the learned professions a vigorous constitution is equal to at least fifty per cent. more brains. Wit, judgment, imagination, eloquence, all the qualities of the mind, attain thereby a force and splendor to which they could never approach without it. But intellect in a weak body is "like gold in a spent swimmers pocket." A mechanic may have tools of the sharpest edge and highest polish; but what are these, without a vigorous hand and arm? Of what use is it that your mind has become a vast granary of knowledge, if you have no strength to turn the key?

Carpets, Dust, and Disease.

The course of recent inquiry into the causes of morbid states has rendered it more and more probable that the active causes of various maladies exist extensively diffused through the atmosphere, and having immediate access to the blood through respiration, become efficient sources of vital derangement. Hence the attention lately given to what is termed the "germ theory of disease," and the confirmation that has been lent to this view by Professor Tyndall's phrase, "dust and disease." Professor Tyndall calls attention to the efficiency of a mass of cotton fibres

placed before the mouth to strain out the atmospheric dust; and this property of fibrous or textile masses to separate and retain the floating impurities, suggests that carpets must exert a more or less harmful influence upon health. That they are traps and reservoirs of dust everybody knows; and it is notorious that they often become so foul that every step charges the air with their emanations. In this period of household changes it is well to remember that, although carpets are not perhaps absolutely dangerous to life, yet they are unhealthier than matting, and that naked floors are healthier than either.—*Galaxy.*

Evils of High-Heeled Boots.

The high heels which it is now the fashion to put on men's, women's and children's shoes and boots, is beginning to attract considerable attention, from their numerous injurious effects. The practice is openly condemned by learned surgeons, and Dr. Wm. H. Pancoast remarked the other day, after performing a painful operation on an interesting little girl, whose feet had been ruined by wearing wrongly constructed shoes, "this is the beginning of a large harvest of such cases." And what else can be expected? Mothers walk the streets with heels on their boots from two and a half to three and a half inches high, and not more than an inch in diameter, and their daughters follow the same bad and barbarous practice. In many cases severe sprains of the ankles are suffered. But these are not the worst fruits of the high heel torture. The toes are forced against the fore part of the boot, and soon begin to assume unnatural positions. In many cases they are actually dislocated. In others the great toe passes under the foot, the tendons harden in that position, and lameness is contracted, for which there is no cure but the knife. When the injury does not take this form, it assumes other aspects almost as horrible, and it is high time society should set its face as a flint against any continuation of the absurd and unnatural custom.

More About the Oleander Poison.

We made mention, a few days since of the fact that the Oleander, so common and popular in our gardens, was a very poisonous plant. We have since met with the following paraphrase in the last number of *Tilton's Journal of Horticulture*, in further relation to this matter:—

The oleander is classed by botanists in the Dogbane family, of which many of the species are acrid-poisonous. Phillip Miller, of the Botanic garden, Chelsea, England, marks in his *Gardener's* and *Botanist's* dictionary, that "oil in which oleander leaves are infused, is recommended in the itch and other cutaneous diseases, in preference to mercurial preparations for children and delicate constitutions; but that the leaves are acrid and poisonous, and therefore not proper to be used internally without great caution. The branches, when burnt, emit a very disagreeable odor." Even the odor of the flowers, when inhaled in close rooms, sometimes produces very unpleasant effects.

The remedies for this poison on such as are commonly used for narcotic and acrid poisons.

TREES OUT OF PLACE. Trees are out of place when they over-shadow the roof of a house or darken its windows. No small part of the sickness of families is attributable to the shading of dwellings by overhanging trees and thick clustering vines. Our bodies need light, pure sunlight, and a great deal of it, and our spirits need it none the less; and he who shuts out this genial dispenser of health makes a great mistake, and does a great wrong. All medical testimony is concurrent upon these facts.—*Ec.*

LIGHT IN THE SICK CHAMBER.—The quantity of light admitted into the sick chamber is a matter of immense importance to its suffering occupant. As light is an element of cheerfulness, it is on that account desirable that as much should be admitted as the patient can bear without inconvenience. The light should be soft and subdued and not glaring. Care should be taken that bright, lustrous objects, such as crystals and mirrors, should be kept out of sight.

THE waters of Lake Michigan now flow through the formerly filthy Chicago River into a canal and thence to the Illinois River. An important sanitary fact for Chicago.



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SAN FRANCISCO:

Saturday, July 22, 1871.

Our Weekly Crop.

This week our friends assemble on the Farallone Islands, and after a few hours stay here, visit San Francisco to witness the preparations made for the Fair of the Mechanics' Institute, and call in at Utah on their way to examine the contents of the Library of Mechanical and Scientific Progress. They take a trip to Colorado, return again to the Swamp and Salt Marsh Lands of the coast, run down to Pescadero to see some new Suspension Chutes for Loading Vessels, and coast along Half-Moon Bay and Vicinity.

After this chase after novelties, we are ready to settle down awhile quietly on the Farm, to see the Celebrated Trotter Pocahontas put through her paces, and to witness a German Method of Curing Hay. And here come to us from all quarters the Agricultural Notes of the week.

In the Swine Yard we are given rules for Breeding and Feeding Pigs, and see a Berkshire Hog of good proclivities. We learn how Calves are Raised at an Agricultural College, talk of Cattle Feed, and of Bee-Keeping Experiments in Washington Territory.

We hear a most interesting discourse concerning our Public School System, one of the greatest bulwarks of a free people, and are given instructive hints on the preservation of Good Health. Walking to the Orchard, we see how the Fig Crop is Dried and Preserved, and discuss the matter of the Exuding of Gum from Cherry Trees. The U. S. Agricultural Bureau sends us a contribution. In our walk we are led to investigate a Singular Hen Disease.

The list of Patents and certain late Inventions claim our attention, and a note comes to us from an Eastward Traveler. The extent and scope of the N. Y. Mercantile Library Association will afford us food for thought.

The ladies of the Home Circle and the Young Folks have prepared their usual collation, which is followed by lessons in Domestic Economy.

We receive another letter from Salt Lake. Our flour mill shows us a valuable Packing and Weighing Machine. As we linger around the ranch limits, ere parting, we have opportunity for partaking of a dessert of Blackberries.

SPECIAL PREMIUMS.—We notice that offers of special premiums for specific objects not considered by the State Agricultural Society, are still being announced in the Oregon papers. These offers come from public spirited citizens, who thus testify to their earnestness in the agricultural progress of their State. We are curious to see a full list of these premiums, and if it was before us might be provoked to publish it as an incentive to a similar public spirited action on the part of the people of California.

A PRECOCIOUS GRAPE VINE.—There is a grape vine in the garden of Mr. J. F. Noel, of Calistoga—two years from the cutting—which has grapes upon it that will weigh, when ripe, from 75 to 100 pounds.

Figs.

The fig is among the most delicious and healthy fruits known in the world. It requires a tropical or semi-tropical climate. It flourishes well in most all parts of California, producing and maturing two crops of fruit each season. The first crop grows on the last grown wood of the previous season. Having started to form in the fall, the embryo fruit is checked by the first frost or cold weather, and remains dormant until the return of warm weather in the spring. The small figs are then seen swelling before the leaves make their appearance on the trees.

With us this crop ripens in the forepart of July and the fruit is generally larger than the next or summer crop, though not usually so numerous. We have both the common blue or black fig and the brown ischa. The latter, when ripe, is of a greenish brown color, and we have had them average a quarter of a pound a piece, as they were picked from the tree. We think this the most delicious kind of figs we ever saw. While it is very rich and melts in the mouth like a delicate peach, it is entirely free from that sickish taste always present in the blue or black varieties. While we have heard many persons say they did not like the fig because it was too rich, we believe we never saw one who did not like the brown ischa on first taste.

Drying and Preserving Figs.

Figs have not heretofore been properly utilized in this State, for the reason that our people have not understood the proper method of drying or preserving them. Dried fruit, generally, such as apples, peaches, plums, etc., are cooked before eating and however thoroughly or hard they may have been dried, the cooking softens them up and brings out the original flavor. Not so with the fig. This fruit is best uncooked, to eat as a desert, and in preparing it for this purpose arises the difficulty.

It will not do to dry the fig to a crisp, as we do other fruit, for that renders it tasteless and useless. The drying process must proceed to a certain point and then must be checked and the fruit preserved for use. In other words the water must be so far evaporated that the sugar in the fruit itself will preserve it or prevent decay. To determine exactly when the drying process should be checked requires judgement and experience, which can only be attained by actual practice.

Another great difficulty has to be overcome—to prevent the fruit, when packed away, from becoming wormy. Flies and other insects are very fond of figs, when drying, and will lay their eggs in the cracks of the skins and unless these eggs are killed your fruit will be destroyed and your labor lost. After a number of unsuccessful efforts to dry or preserve figs—running through so many years—we were furnished with the following recipe which we have followed since with satisfactory success:—

“Pick the figs when thoroughly ripe, dry them on racks as you would other fruit, in the sun, for four or five days—or until the water they contain is thoroughly evaporated. If there is any dew, cover them nights. Then place them in a vessel perforated with holes, like a cullender, and dip them into boiling water for about one minute, after which again expose to the sun until the surface water has been evaporated. Then lay them into wood, tin, earthen or other vessels and press closely so as to exclude the air, and cover securely.”

In this way we have preserved figs so that they were equal to the best imported. We would recommend all who raise this fruit to try the experiment. The scalding answers the double purpose of killing all insect eggs and softening the skin of the fruit so that the sugar will come to the surface as may be seen on the imported figs.

U. S. Agricultural Bureau.

A glance through the new building of the Agricultural Bureau at Washington, and its rapidly accumulating contents, impresses one most favorably with the great utility and importance of that Department. An approach to the building gives one a pleasing view of its easy, practical and moderately ornamental style, surrounded by floral plats and choice shrubbery that will complete a delightful picture, with a more mature growth.

Some of the rooms in the interior are made elegant with a harmonious variety of finished woods, and the entire structure seems indeed a creditable one.

Its ample grounds contains over 1,300 varieties of ornamental trees. The conservatories, although new and extensive, are being rapidly filled with most useful and rare collections.

A week's examination of the cabinet and museum, conservatory and grounds would fail to satisfy the inquisitive visitor, who is invariably astonished to find so much of interest at an institution of which there has been, and is being so little said.

In its present position, this Bureau of our national government is new, and nine-tenths of the very residents of the Capitol itself are quite oblivious of its rare sights and importance as one of the most useful and attractive features of their “city of magnificent distances.”

We hope soon to give our readers an illustrated view of the building and conservatories. To Mr. R. T. McLain, chief clerk, we are indebted for much information and off-hand courtesy which will make our short visit well remembered. He is an active, practical appearing man, and has long been connected with the Department.

FISH CULTURE.—It is gratifying to see so much attention being paid to this very pleasant and profitable industry on this coast. A good beginning has been made by our Fish Commissioners in the introduction into our rivers of—to our State—new varieties of fish. We also hear of a good many enterprises looking to the establishment of private ponds for breeding different kinds of fish. Among the best fish and the easiest raised are the speckled trout from our own mountain lakes on the Sierras. By an advertisement of Comer Bros. & Co., in another column, it will be seen that they are prepared to furnish in large quantities small trout suitable for stocking lakes, ponds and streams with these very valuable fish.

PRECAUTION.—In order to prevent the introduction into the United States of the cattle disease known as the “hoof and mouth disease,” now prevailing in Chili and the Argentine Republic, orders have been issued to the various collectors of customs that no cattle will be allowed to enter the United States ports from those countries, unless accompanied by an invoice having consular certificates that the station is free from disease.

SQUIRREL SKINS.—We are unable to give the name of the French agent who was recently purchasing squirrel skins. We clipped the item from an interior paper. If there is any such person in the State at this time, it may be to his advantage to communicate with this office.

SALE OF FARMING LAND IN NAPA.—Mr. F. Kellogg, according to the Napa Register, has sold within the past few days, to Rev. Mr. Lyman, 800 acres of land lying between St. Helena and Calistoga, for \$37,000. F. L. Sullivan to James H. Goodman & Co., a 1,000-acre ranch, situated between Yountville and St. Helena, for \$32,500.

MECHANICS' INSTITUTE FAIR.—Milton S. Latham has been engaged by the Directors of the Mechanics' Institute to deliver the opening address at the next Fair.

A Singular Hen Disease.

EDITORS PRESS:—Can any of your readers inform me, what is the cause of the deaths of my hens;—the circumstances are as follows:—The hen appears to get sluggish, but eats regularly; she mopes all day, and her excrement is small, watery and of a darkish color—nearly black. She finally grows extremely weak, and appears to die from sheer exhaustion of the vital powers. On making an autopsy, the liver and intestines are found thickly studded with yellowish, hard excrescences or nodules of a cheesy character and of a light straw color, and the body is extremely emaciated. I have tried everything I could think of—pepper, nettles, cornmeal mixed with weak lye, etc., with no good effect. What is the disease? What is the remedy? It appears to be contagious in a flock of hens; but does not extend beyond the single flock; as my nearest neighbors have fine healthy hens, whilst mine are decimated.

At first I thought it might be some disease originating from lice; but I found by using kerosene in the whitewash of the henry; and “greasing” the hens, I easily subdued that difficulty.

I would be glad to learn a remedy as I have already lost quite a number of valuable hens. The disease seems to attack the females only and not the males, who appear to enjoy their usual health. It also appears to attack bantams and game fowls readier than other breeds.

I have fed wheat and rice boiled, as well as in the raw state, and find no benefit; cornmeal seems to aggravate the trouble.

I forgot to state that the livers appear to be enlarged. Is it fever and ague among them? About a hundred, or a hundred and fifty yards from the henry is Sonora creek, where much stagnant water is standing. If any of your readers can tell from the description, what is the matter, and how to remedy it I shall feel thankful for the information.

Yours truly, THOS. R. STODDART

Exuding of Gum from Cherry Trees.

EDITORS PRESS:—Will you please ask, through the PACIFIC RURAL PRESS, for information upon the following:—Is the exuding of gum from cherry trees considered injurious and hurtful to the tree? What is the supposed cause? It cannot be confined to any particular location or quality of soil, as I have some in my orchard that are throwing out large quantities of gum, when its neighbor tree, only thirty feet distant, will be throwing but little if any.

What remedy, if any, can be applied to the tree or soil to prevent or stop it? By answering the above, you will oblige one that is rather a novice as an orchardist. I have 40 acres about one mile west of Petaluma—soil, sandy loam, about thirty acres in orchard; balance in vines, small fruit, and pasture.

The old settlers tell me that the grape does not pay in this vicinity. It grows too much wood, and consequently does not produce enough fruit. Many are taking up their grape, and putting in blackberries, and more will do the same next year.

Yours, etc., W. W. CHAPMAN.

SOWING ALFALFA.—“J. P. D.,” of Contra Costa, wishes to know the best time to sow alfalfa in this part of the State—in the valley and on the low hills? He sowed last February near Martinez, and it died out after reaching one foot in height. The squirrels also eat down a large portion of it, after one-third had dried up. He does not think it will spring up again. Our querist also asks if the frost will kill it if it is sown after the first rains.

We do not know what the practice has been, in this State, about the sowing of this grass; but should suppose that the best time to sow would be immediately after the first rains, and we should not suppose the frost would injure it, if sown at that time. If thus sown, at the commencement of an ordinarily wet season, it ought to get sufficient root before the dry weather sets it to render it safe from any drouth.

We should be pleased to give the experience of some one who has cultivated this grass for several years. It has been grown in the State for about 15 years, and we believe the general experience has been highly favorable with regard to its productiveness and economy.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING JULY 4TH.

PREPARING SEAL SKIN.—Louis Falkenau, San Francisco.

TILTING CHAIR.—Chas. R. Peters and William P. Taylor, San Francisco.

ROLLER SKATE.—George Vincent, Stockton, Cal., assignor of two-thirds his right to Wm. H. Van Vlear and Charles D. Ladd, same place.

ROTARY SOD CUTTER.—Josiah Pool, Rio Vista, Cal.

TOILET PASTE.—Julie Desmarques Young, San Francisco.

Notices of Recent Patents.

IMPROVED PUNCH.—D. A. Faulkner, Centerville, Alameda county, Cal. This invention relates to improvements in stationary punches, such as are used for punching leather, metal and other substances; and it consists in the employment of an adjustable circular plate or die which is provided with different sized holes, any of which can be readily brought under the punch. It also consists in an improved manner of attaching and operating the punch, so that it can be readily removed and replaced with a different size when necessary.

IMPROVED WAGON.—C. Elliott, Woodland, Cal. This invention applies to buggies, carriages and light wagons. It consists in a peculiar manner of mounting the bed or body upon the carriage frames, so as to secure an easy and undulating motion, and at the same time a strong and substantial construction, while the expenses of manufacture are kept within reasonable limits. The device recommends itself to the attention of carriage-builders and others.

AN IMPROVED IRONING AND STRETCHING BOARD.—J. W. Davis, Reno, Nevada. The object of this invention is to provide an ordinary ironing board with a stretching device, by means of which clothes and other fabrics, which have been shrunken by washing, can be stretched to their original length and set by ironing so that they will retain their length. The device is simple and of easy use, and is said to answer its purposes very well.

ROTARY ROASTING FURNACE.—F. Kessler, S. F. This is a combination of a stationary and a revolving hearth, one placed above the other, over which the heat from the furnace passes. The revolving hearth is placed below the stationary one, and first receives the heat from the grate. From the chamber in which this hearth revolves, the heat is led through a convenient flue to the upper chamber, which is provided with the stationary hearth. From this chamber the heat escapes to the open air. The ore is first fed from a hopper upon the stationary hearth of the upper chamber, where it is subjected to the action of the heat, being stirred meanwhile by a series of plows which are moved around over the hearth. After being sufficiently subjected to the action of the heat in this chamber, it is passed through proper gates to the revolving hearth of the lower chamber, by which it is carried slowly around beneath a horizontal shaft, which is provided with peculiarly shaped beaters and lifters which consecutively mat down the ore and lift it into the air, so that, by dropping, it is loosened up and exposed equally to the heat, thus also permitting the volatile gases to escape. After being sufficiently subjected to this process, it can be removed from the hearth by suitable traps or gates.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

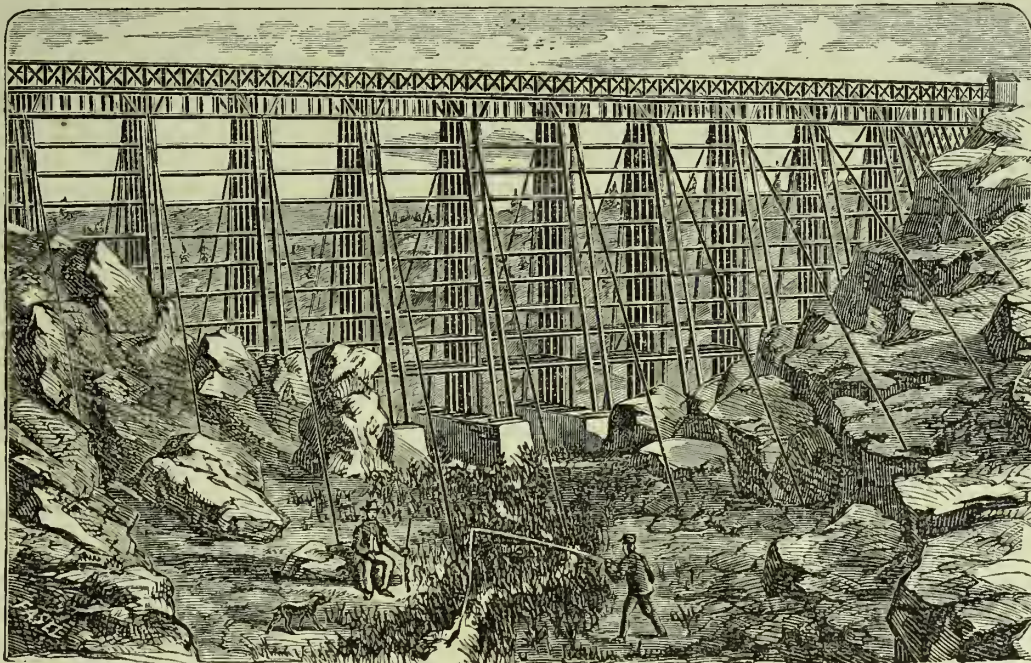
THE St. Louis Iron Co. contemplate erecting the largest blast furnace in the U. S.

Editorial Notes Eastward.—11.

Through Wyoming.

Now we come to the region of snow fences and snow sheds, for we are creeping slowly to high elevations. We pass into Wyoming Territory, and at Evanston see some of the coal mines, which form such an important part of the wealth of this section. We pass such mines also at Point of Rocks, Hallville, Black Buttes,

see that the farmers are taking advantage of the opportunities offered by the railroad and are settling up the country. We come to the great Valley of the Platte, of huge extent, rich and beautiful. We sail over the plains, which at sunset are lighted up with rich hues and present a scene of the deepest peace. The morning sun shows us a like view, and we rush ever forward into the day, until we finally reach, in the middle of the afternoon, the



DALE CREEK BRIDGE, UNION PACIFIC RAILROAD.

Carbon and Rock Creek, but daylight permits us to see but a few of these points. Coal is not the only mineral, however, along the railroad, but copper, iron and gold are also reported at several places.

We breakfast next morning at Laramie,

terminus of this road, and will rest awhile at Omaha.

What a N. Y. Library Association Does.

Fifty years ago, a number of gentlemen

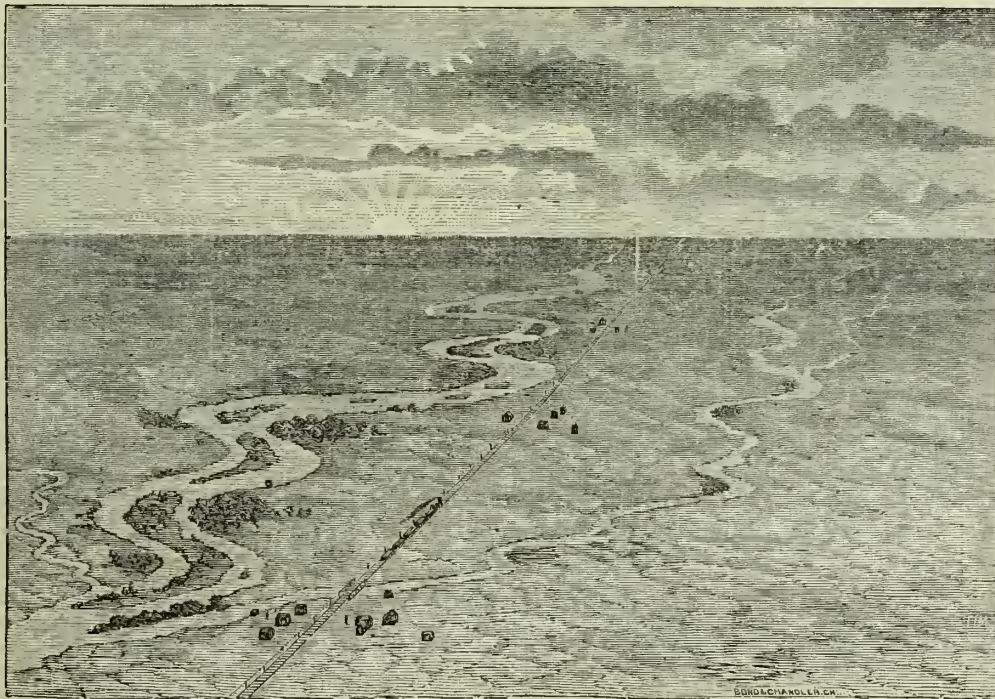
Elizabeth, Jersey City and Paterson, New Jersey. In the city, the library delivers books at the residences of members, if desired. It has just introduced the practice (being the first in the United States to do so) of circulating monthly and quarterly magazines and reviews as it circulates books. A weekly charge of five cents is made for their use. It has lately started a bindery of its own in its building, this being far more satisfactory and probably more economical than the old plan of giving out the work. The project has been mooted of having the library open on Sundays, but the feeling against it, on the part of those who have already secured comfortable homes, is so strong that the subject has been dropped for the present. As the library is intended principally for the use of clerks, so many of whom have no proper place of resort on Sunday, and many of whom would be kept from worse places if they had a pleasant place to go to, we hope that the plan may be carried out at no distant day.

There are, in connection with the institution, classes in French, German, Spanish, English, Phonography, Elocution and Gymnastics. These are self-supporting, but the attendance is growing small, and there is some question as to the advisability of continuing them all. The practice of public lecturing under the auspices of the association was once a leading feature, but had died away for several years previous. It was successfully revived, however, last winter. The association has four free scholarships,—two in Columbia College and two in the University of New York. By law the President, Vice-President and Treasurer of the library are *ex officio* trustees of the Institution for the Savings for Merchants' clerks.

These few items, which we have taken from the fiftieth annual report, will serve to show something of the scope and influence of the association. It is a great credit to New York that the institution can be in so flourishing a condition, and that it receives the aid which it does from the merchants of the great metropolis. It appears to have received a steady and liberal encouragement from the mercantile community from its start. We hope that the fiftieth annual report of the San Francisco association will be able to give a corresponding state of affairs.

SILK.—The Grass Valley Union of July 12th, says: The silkworm business this year, in this county, has been remarkably successful. The worms have hatched, attained full size and have spun without

being troubled by any disease whatever. The season has been favorable, and, besides that, those engaged in the business have learned much about the worms. We saw yesterday samples of cocoons from Dimon's Silken Grove ranch, and they are very fine. These cocoons were spun by the French annual worm, and by the Salt Lake worm. The cocoons made by the Salt Lake worm are easily reeled, requiring no wetting or soaking in the process. Dimon informs us that his mulberries are flourishing beyond his expectations. He has not lost a worm this year, has plenty of eggs for next year, and will have food for a largely increased number of worms. Mulier, of Nevada City, has also been successful, as he always is. Nevada county will be well represented as to the silk business at the Mechanics' Institute Fair and the State Fair.



SCENE ON THE PLAINS—CROSSING OF LOUP FORK RIVER.

famous for its plains, its healthy position, and from the fact that here the gentler sex have acted on jury duty, Wyoming being the first to make trial of female jurors. Before long we come to one of the most noted structures on the road, Dale Creek Bridge, some 700 feet long and 126 feet high, which is a monument to the skill of the U. P. R. R. engineers. [The accompanying illustrations are from Croft's Transcontinental Guide Book.] Soon we come to Sherman, the highest railroad station in the world, 8,242 feet above the level of the sea.

Now we glide on a downward grade, having surmounted all the difficulties of our path. At noon we are at Cheyenne, where the Denver Pacific branches off to the south.

Through Nebraska.

Between three and four o'clock we pass into Nebraska. On its rolling prairies we

founded in New York a Mercantile Library Association. This had in all 204 members during its first year, and acquired 1,000 volumes. Now this same association admits to its halls nearly thirteen thousand members, has on its shelves over one hundred and twenty-seven thousand volumes, and circulates in the course of one year two hundred and sixty-nine thousand publications. Its library is exceeded in size by only three libraries in the country, and exceeds in circulation all others. Its annual income amounts to over forty-two thousand dollars, and it expends yearly some eleven thousand dollars in books.

Besides the main library, with its reading rooms, halls, etc., there is a branch library in another part of the city, and also branch offices in Yonkers, N. Y.; in Norwalk and in Stamford, Connecticut; and in



BY OUR LADY EDITORS.

A Story for the Boys.

The boy that I'm going to tell about was Dudley Crawford. With a cherry voice, a bright, quick eye, a quicker hand and a fleet foot, he was a great favorite on the play-ground. If there was a weak boy, whom the others imposed upon, Dudley was always his fast friend, and the mean fellows who make up for their cowardice toward boys of their size, by "picking" at little fellows or green boys, had always a wholesome fear of Dudley, though I do not think he ever struck one of them. But his fearless, honest eye cowed them, and I am sure he would have struck hard if it had been necessary to protect the poor little fellows who kept under his wing. The boys called them "Dud's chickens."

There was one boy in the school, Walter Whittaker, who had a special desire to be on good terms with Dudley. Walter's father had gotten rich during the war, and Walter had a special fondness for being genteel. He wore gloves, and kept his boots brighter than there was any occasion for. He was not much of a scholar, though older than Dudley. But he was fond of calling young Crawford his friend, because Dudley's father was a rich and talented lawyer.

At last, there came a financial crash that sent all of Mr. Crawford's half million of dollars to the winds. He was in feeble health when it came, and the loss of his property hastened his death. The same "panic" left Whittaker poor also. But the boys took it very differently. Whittaker looked crest-fallen as if he had committed a crime. Dudley mourned the loss of his father, but held up his head bravely under the sudden poverty. Whittaker looked around for a "situation." But the times were hard, and situations were not to be had. Every clerk that could be dispensed with was sent away, and besides merchants do not like to employ a fellow who wears gloves and looks afraid of soiling his hands. Dudley had his mother to support, and looked about bravely for work. But no work was to be had. He tried everything, as it seemed, until at last he asked stern old Mr. Bluff who owned half a dozen factories of different kinds.

"You want work, do you, young man? I s'pose you want to keep books or suthin' o' that sort. I never saw such a lot o' fellers askin' for work an' afraid of soiling their fingers."

"I'll do any honest work by which I can earn my bread, without being dependent on my friends."

"Any honest work, will you? I'll make you back out of that air. I'll bet you won't begin where I did."

"Try me, sir, and see."

"Well, then, I'll give you good wages to go into my soap factory next Monday morning. Ha! ha! that's honest work, but fellers of your cloth don't do that sort of honest work."

"I will sir."

Mr. Bluff was utterly surprised, but he gave Dudley the situation, saying that he reckoned the smell of soap-grease would send him out.

Dudley hardly knew what to make of his own boldness. But he only told his mother that he had a situation with Mr. Bluff, and that he did not know the precise nature of his duties. He was not ashamed of his work, but afraid of giving her pain.

Monday morning he went early to the soap factory, stopping at the tailor's on the way and getting a pair of blue overalls that he had ordered. It must be confessed that the smell of the factory disgusted him at first, but he soon became interested. He saw that brains were used in soap-making. He became more and more interested as he saw how accurate some of the processes were. He soon learned to cut the great blocks of hard soap with wires; he watched with eager interest the use of coloring matters in making the mottled soaps, and soon became so skillful that surly Mr. Bluff promoted him to some of the less unpleasant part of the work.

But there was much talk about it at first. Some of the young ladies who had been

useless all their lives, and who had come to think that uselessness was necessary to respectability, were "surprised that Dudley Crawford should follow so low a trade." But those very people never once thought it disgraceful in Walter Whittaker to be a genteel loafer, living off his father's hard earned salary and pretending that he was looking for a situation. But I will not be too hard on poor Whittaker. I think, if he could have a situation in which he could do nothing, and be well paid for it, he would have been delighted. But he shunned Dudley. Partly because he was afraid of comprising his own respectability, and partly because he had sense enough to see that Dudley's honest eyes looked through him and saw what a humbug he was.

After a year Dudley's father's estate was settled, and owing to an unexpected rise in some of the property, it was found that the debts would all be paid, and a small balance left for the family. It was but a small amount but it enabled Dudley to lay aside his blue overalls, and return to the old school again. Dr. Parmelee, the principal was delighted to have such a good pupil back again. Whittaker came back about the same time, and the very first day he whispered to some of the boys that Dudley smelled of soap-grease. The boys laughed thoughtlessly, as boys are apt to do, and passed the joke round. Dudley maintained the respect of the school in general, but there was a small clique, who never knew their lessons, but prided themselves on being genteel dunces. The boys used to talk about the soap-grease, even in Dr. Parmelee's presence, but the Doctor quietly retorted that if Crawford's hands smelled of soap-grease, that was better than to have soap-grease inside his head and pomatum on the outside. They were a little more modest after this, but they could not forbear allusions that kept Dudley under fire.

His mother, who was very proud of her son's independence, could not but feel sorry that he was subject to such persecutions. "Ah! mother," he would say, "the thing that I am proudest of in all my life is that I spent a year in Bluff's soap factory. Do not think that I am annoyed by the barking of lap-dogs."

At last came the day of graduation. Dudley led the class. There was a great crowd of fine looking people. The last speech of all on the programme was "Honest Work Honorable—Dudley Crawford." With a characteristic manliness he stood up bravely for work. So fine was his argument, so undaunted his bearing, that the audience were carried away. Dr. Parmelee took off his spectacles to wipe his eyes. Dudley's mother could not conceal her pleasure. "Franklin's hands had printer's ink on them," he said, "but they were shaken by princes and savans—the lightning did not despise them. Garibaldi's fingers were soiled with candle-grease, but molded a free nation. Stephenson's fingers were black with coal, and soiled with machine oil of firemen's work, but they pointed out highways to commerce, and revolutionized civilization. There are those," (Whittaker and his set looked crestfallen here,) "who will gladly take the hand of a worthless loafer, or of genteel villains," (here certain ladies looked down,) "but who would not have dared shake hands with Franklin, the printer, with Garibaldi, the tallow candler, with Stephenson, the stoker. But before God and right thinking men there are no soiled hands but guilty hands or idle ones."

When he sat down, others beside his mother shed tears, and good Dr. Parmelee shook his pupil's hand in sight of the audience, but the applause was so great that nobody could hear what was said. And next day a note came from the chief editor of a leading paper saying that one who believed enough in labor to carry out his principles of life, would make an earnest advocate of them. He therefore tendered Mr. Crawford a prominent place on the editorial staff of his paper.

The Two Sexes.

Man might be initiated in the mysteries of needle-work; taught to have patience with the feebleness and waywardness of infancy, and to steal with noiseless step around the chamber of the sick, and the woman be instructed to contend for the palm of science; to pour forth eloquence in Senates, or to wade through the field of slaughter to a throne. Yet revolvings of the soul would attend this violence to nature, this abuse of physical and intellectual energy; while the beauty of social order would be defaced, and the fountain of earth's felicity broken up. We arrive, then, at the conclusion:—The sexes are intended for different spheres, and instructed

in conformity to their respective destinations, by Him who bids the oak brave the fury of the tempest and the Alpine flower lean its cheek on the bosom of eternal snows. But disparity does not necessarily imply inferiority; the high places of the earth with all their pomp and glory are indeed accessible only to the march of ambition, or grasp of power, yet those who pass with faithful zeal through their humble round of duty are not unnoticed by the Great Task-maker's eye—and their endowments, though accounted poverty among men, may prove durable riches in the Kingdom of Heaven.—Mrs. Sigourney.

The Judgment of Women.

We will say nothing of the way in which that sex usually conducts arguments; but the intuitive judgments of women are often more to be relied upon than conclusions which we reach by an elaborate process of reasoning. No man that has an intelligent wife, or is accustomed to the society of educated women, will dispute this. Times without number you must have known them to decide questions upon the instant, and with unerring accuracy, which you had been pondering over for hours, with no other result than to find yourself getting deeper and deeper into the tangled maze of difficulties. It is hardly generous to allege that they achieved these feats less by reasoning than a sort of sagacity that approximates to the sure instincts of the animal race; and yet there seems to be some ground for the remark of a witty French writer, that when a man toils, step by step, up a flight of stairs, he will be sure to find a woman at the top; but she will not be able to tell how she got there. How she got there, however, is of but little moment. If the conclusions a woman has reached are sound, that is all that concerns us. The inference, therefore, unavoidably is, that the man who thinks it beneath his dignity to take counsel with an intelligent wife stands in his own light, and betrays that lack of judgment which he tacitly attributes to her.—*Exc.*

Love of Parents for their Children.

There is no love like that between parents and children. This comes nearer divinity than anything we can find in this world. The boy is born, parents are poor, on a penurious farm; all their thoughts center on him: He shall be educated; every inch of ground shall tell; they will deny themselves food and clothing, may be, that that boy shall go to college. Other children are born—the strife is terrible. God pays poverty with better coin than gold or silver. With almost supernatural ingenuity the old wilderness of a farm is worked, so that it contributes to the education of their darling boy, and he departs for the university. He may be truly said to light his candle of knowledge by the marrow of his parent's hearts. By and by news comes that he has disgraced himself—he is expelled. Oh! what tears, what anguish, what heart-aches, what dead people they are! Their darling is disgraced, set adrift, for whom they had given everything. What shall he do, where shall he go? Come home. Into his mother's arms—back to his mother's prayers—on another term of service. Isn't that love? Do you dare to say that there is no such thing as disinterested affection in this world? Oh my friends, there is a great deal of pure gold that is never recognized here, but which counts for all that.—*Henry Ward Beecher.*

Men and Women.

What is it that makes all those men who associate habitually with women superior to others who do not? What makes that woman who is accustomed and at ease in the society of men, superior to her sex in general? Solely because they are in the habit of free, graceful, continued conversation with the other sex. Women in this way lose their frivolity, their faculties awaken, their delicacies and peculiarities unfold all their beauty and captivation in the spirit of intellectual rivalry. And the men lose their pedantic, rude, declamatory, or sullen manner. The coin of the understanding and the heart changes continually. The asperities are rubbed off; their better material polished and brightened, and their richness, like the gold, is wrought into finer workmanship by the fingers of women than it ever could be by those of men. The iron and steel of their characters are hidden, like the character and armor of a giant by studs and knots of precious stones, when they are not wanted in actual warfare.

YOUNG FOLKS' COLUMN.

The Dear Old Grandmother.

Some one in the Children's Hour thus talks about a kind, lovable old lady whose presence is sunshine in every house:

Have you a dear old grandmother who comes three or four times a year, and stays ever so many weeks, and is so good, and tells you such sweet stories? We have, and she's so nice.

She came yesterday, and the house has been brighter ever since. Jack isn't half so noisy as he was, and Mary hasn't cried or pouted once, but goes about singing like a bird; and its all because grandma is here. It seems as if nobody would be cross, or fretful, or bad, where she is. She speaks so gently always, and there is such a soft light in her eyes, when she looks at you, and such a sweet smile on her lips when she talks.

Mr. Walton, our minister, was here this morning, and I heard him say something to mother, after grandmother had left the room about "growing old gracefully," these were his very words. I think I know what he meant. I wonder if I shall ever get to be a woman, and then grow old like grandma—sweet and beautiful, and good! Everybody loves her; and she seems to love everybody.

I think I'd rather die than grow old like Katy Long's grandmother. Nobody likes her, and I don't much wonder; she's so cross and selfish. Katie doesn't love her; she told me so, and said she was always sorry when she came and glad when she went away. Now isn't that dreadful!

It is so sweet to be loved; and I heard papa say once that if we would be loved we must be lovely. Grandma is lovely, and that's why she is loved.

I'm a little girl, and don't know a great deal, but I know why everybody loves grandma. Dear grandma! I hope I shall be as sweet and good as she is when I grow old.

The Broken Pledge.

A gentleman in Virginia had a boy six or seven years old who wanted to sign the pledge of total abstinence from all intoxicating drink. All in the family had done it, but the father thought him too young, and would not let him do so.

After much entreaty permission was given. Soon after that the father went away on a journey. At a stopping place away from the town he called for some water. It was not brought, so he called again; still he could not get it, but cider was brought, and being very thirsty he so forgot himself as to drink that. When he got home he related the circumstance. After he had finished, the little boy came to his knee, with his eyes filled with tears, and said:—

"Father how far were you from James river when you drank that cider?"

"Rather more than fifteen miles, my boy."

"Well," said the little boy, "I'd have walked there and back again rather than have broken my pledge!"

BE KIND TO EACH OTHER.—A little boy and girl, each probably five years old, were by the roadside. The boy became angry at something, and struck his playmate a sharp blow on the cheek, whereupon she sat down and began to cry piteously. The boy stood looking on sullenly for a minute, and then said:—"I didn't mean to hurt you, Katie; I am sorry." The little rosy face brightened instantly. The sobs were hushed, and she said:—"Well, if you are sorry, it don't hurt me."

A LITTLE school girl up in Massachusetts asked her teacher what was meant by "Mrs. Grundy." The teacher replied that it meant "the world." Some days afterwards the teacher asked the geography class to which this little "bud of promise" belonged, "What is a zone? After some hesitation, this little girl brightened up and replied, "I know; it's a belt around Mrs. Grundy's waist."

PARROTS.—There are said to be nearly two hundred species of parrots. Almost all these are natives of the tropics, and the greater portion of them are very rich in plumage. But one species is found wild in the United States—the Carolina or Illinois parrot, resident in some of the Middle and Southern States, but not numerous.

"Now, my boy," said the committee-man, "If I had a nice pie, and should give two-twelfths of it to John, two-twelfths to Isaac, two-twelfths to Harry, and should take half the pie myself, what would there be left? Speak up loud, so all can hear." "The plate," shouted a boy.

DOMESTIC ECONOMY.

How to Cool Water.

At this season of the year a cool draught of water is a luxury which we may enjoy with a little care. By the following method, simple and inexpensive, water may be kept almost as cold as ice. Let a jar, pitcher or vessel used for water, be surrounded with one or more folds of coarse cotton, to be constantly wet; the evaporation of the water will carry off the heat from the inside, and reduce it to a low temperature. In India and other tropical countries, where ice cannot be procured, this expedient is common. Let every mechanic and laborer have at the place of his work two pitchers thus provided, and with lids or covers, one to supply water for the evaporation, and he can always have a supply of cold water in warm weather. Any person may test this by dipping a finger in water and holding it to the air on a warm day; after doing this two or three times he will find his finger uncomfortably cool. This plan will save the bill for ice, besides being more healthful. The free use of ice water often produces derangement of the internal organs; which, we conceive, is due to the property of the water independent of its coldness.

Soap.

When you take up a small square of perfumed soap and lather your hands briskly with it, do you ever stop to think how hard it would be to get along without the cleansing agent? "How are you off for soap?" would become one of the most important questions of the day, if you were to have a soap-dearth as well as a coal famine. Yet the use of soap is not three hundred years old. We hear about the lily hands and the pure cheeks of the fair ladies of the days of old renown—but how in the world did these *belle dames sans merci* manage to keep their hands and faces so clean and sweet without any soap? The high-bred lords and ladies of the Middle Ages were compelled to resort to the free use of aromatic essences and oils to atone for a want of cleanliness; while the voluptuous Greeks dipped their garments into perfumed water. So we see that the world learned to be sweet before it learned to be clean. Just imagine that Tennyson's "Lily Maid of Astolat" never saw even so much as a cake of brown Windsor—not even a piece of homely rosin soap!—*Lake Side Monthly*.

TO DESTROY FLYING MOTHS, ETC.—For all moths, and beetles that fly by night, use fire to trap them. A fire of shavings, or any thing that will make a blaze, kindled in the evening, will destroy thousands. The more flame the better, if it does not scorch the leaves. A cheaper method still, is to take the half of an old sugar-hogshead, or any open vessel, with a broad surface, partially filled with water, and set a lighted glass lantern on a block or stone in the center of the water at night. The moths are attracted by the lantern and its reflection, and fall into the water. The advantage of the sugar hogshead is, that it serves for a trap by day as well as by night. For moths that fly by day, take wide-mouthed bottles, half fill them with sweetened water, and vinegar, and hang them in the trees, changing the liquid weekly. Thousands of insects are drowned.

HOW TO CLEAN FLOORS.—Office floors darkened by dirt may be satisfactorily whitened at the spring cleaning by washing with hot ley of caustic soda to remove any grease, and when nearly dry, moistening with very dilute hydrochloric acid, and then with a thin paste of hypochlorite of lime, left on over night. When washed off in the morning, the whiteness of the floor will be equally surprising and delightful. Stone house fronts are cleansed by throwing against them a jet of water under steam pressure. This method is cheap, and does not injure ornamental parts. Aside from the clean and fresh appearance thus secured, it is calculated that if all the walls of the buildings in London were kept clean, instead of being grimy and dark from top to bottom, a gain would be obtained of half an hour of daylight out of every twenty-four.

TANNING LEATHER.—It is often a matter of both convenience and economy in the household or on the farm to be able to do a little tanning; so we give here an approved receipt which may prove useful to some one who is not acquainted with it: "Soak the skin or hide eight or nine days in water, then put it in lime; take it out, and remove the hair by rubbing it, and soak it in clear

water until the lime is entirely out. Put one pound of alum to three of salt, dissolve in a vessel sufficiently large to hold the hide; soak the hide in it three or four days, then take it out, let it get half dry, and then beat or rub it until it becomes pliable. Leather prepared by this process will not do so well for shoes, but answers well for ham strings, back bands, and various other purposes on the farm.

How Much Bread a Barrel of Flour Will Make.

They have had a bread controversy in Washington City. Some weeks ago fault was found with the bakers for raising the price of bread; and, a practical baker taking the ground that bread could be made for five cents a loaf, while others claimed it could not; to settle the matter it was arranged that three barrels of flour should be purchased and baked at the government bakery the officer in charge to be the arbiter. The result was a yield of 560 pound loaves of bread to the barrel. This, it is stated, is at variance with the past experience of the Washington bakers, who have not been able to obtain more than 250 pound loaves from the barrel in the regular course of business.

Pickling Green Corn.

This is a much cheaper method of preparing corn to be used in winter in a fresh state, than that of canning it: When the corn is a little past the tenderest roasting-ear state, pull it; take off one thickness of the husk, tie the rest of the husk down at the silk end in a close and tight manner; place them in a clean cask or barrel compactly together, and put on brine to cover the same of about two-thirds the strength of meat pickle. When ready to use in winter, soak in cold water over night, and if this does not appear sufficient, change the water and freshen still more. We have used corn prepared in this way for two seasons, and it is excellent; very much resembling fresh corn from the stalk.—*Ex.*

TO FLAVOR TOBACCO.—This is done by a mixture of one part each of lemon peel, orange peel, figs, coriander seed, and sassafras; one-half part each of elderberries, and cinnamon; two parts of saltpetre, three of salt, and four of sugar. This mixture must be digested in fifty parts of water, and, before applying it, flavored with an alcoholic solution of gum benzoes, mastic, and myrrh. It is said that this decoction gives a flavor to common leaves resembling closely the Porto Rico; but to this end the leaves must be well dried, about a year old, well permeated with the preparation, kept in a pile for eight days, turned daily, and finally dried.

TO KEEP MILK SWEET.—A teaspoonful of fine salt or horse-radish, in a pan of milk will keep it sweet for several days. Milk can be kept a year or more as sweet as when taken from the cow by the following method: Procure bottles, which must be perfectly clean, sweet, and dry; draw the milk from the cow into the bottles, and as they are filled, immediately cork them well, and fasten the cork with pack-thread or wire. Then spread a little straw in the bottom of a boiler, on which place the bottles, with straw between them, until the boiler contains a sufficient quantity. Fill it up with cold water, and as soon as it begins to boil draw the fire and let the whole gradually cool. When quite cold, take out the bottles and pack them in sawdust in hampers, and stow them away in the coolest part of the house.—*Southern Farmer*.

PEA-SAUSAGE.—The *Vallejo Chronicle* says that a citizen of that town has on exhibition a pea-sausage, which is a specimen of the condensed rations carried by the Prussian soldiers in their late campaigns. It is made of the condensed juices of beef and pea flour, and in that shape a soldier can carry enough for thirty days substance without inconvenience. Our own Government will test the new rations among the troops in Arizona.

MENDING TIN PANS.—A correspondent of the *Rural New Yorker* says: "Tell your lady readers to mend their tin pans with putty. It is very easily done, and is much better than to throw them away. Put it on the outside; let it thoroughly dry, and they will never have to mend that place again. I have them that I have used for twenty years."

TOMATOES.—With meat, raw, should be sliced up in vinegar, salt and pepper, like cucumbers. For tea, use sweet cream and sugar; they are almost as good as strawberries.

Domestic Receipts.

TO KEEP TOMATOES FOR WINTER USE.—By the following method we may have tomatoes all the year round, which can scarcely be distinguished from those picked fresh from the vine: Dissolve a teacup of salt in a gallon of water. Pick ripe tomatoes, but not over-ripe, leaving a little of the stem on. The tomatoes must be kept well covered with the brine, and they will keep till Spring or longer.

CALF'S HEAD SOUP.—Take a calf's head, and part of the liver and lights; boil in six quarts of water, until you can take the bones out; put it on a dish and season with pepper, salt, thyme, mace and cloves; skim the water, if there be any fat on it; put all back in the same water, and let it boil until well done; just before dishing, add one glass of wine; brown with burnt sugar, and thicken with a little flour, butter and force-meat balls.

FRIED CHICKENS.—Cut up the chicken and lay them in cold water to extract the blood. Wipe them dry, season with pepper, salt, and dredge with flour. Fry in lard to a rich brown; take them out and keep them near the fire; skim the gravy carefully in which the chicken have been fried, mix with it half a pint of cream, season with mace, pepper, salt and parsley.

AMBROSIA.—Slice oranges in a deep glass dish; sprinkle well with fine sugar; cover with grated cocoanut; sprinkle with sugar. Repeat until the dish is full.

SALVE FOR CHAPPED HANDS, ETC.—Take equal weights of fresh unsalted butter, mutton tallow, beeswax and stoned raisins. Simmer until the raisins are done to a crisp, but not burned. Strain and pour into cups to cool. Rub it on the hands or lips before going to bed, or going out in the wind.

HAIR CURLING LIQUID.—Take borax two ounces, gum arabic one drachm, and hot water (not boiling) one quart; stir, and as soon as the ingredients are dissolved add three table-spoonsful of strong spirits of camphor. On retiring to rest, wet the hair with the above liquid and roll it in twist of paper as usual.

TO REMOVE INK SPOTS.—Put the article stained over a warm flat-iron, stretch it well, then squeeze a few drops of lemon juice on it, and the spot will disappear at once. Wash immediately in cold water.

Mechanical Hints.

SMOKY CHIMNEYS.—Having had an offer from my employer to move into a house built expressly for me, and built under my supervision, I had an open fire-place built in my kitchen, with good fire doors attached, and when my family moved in we found that the chimney had no draft, so I tried having it built three feet higher; but this did not make any change. So I got a tin-smith to put a pipe on, making it about nine feet higher than it first was, but all to no purpose. One of my neighbors suggested closing the chimney up tight just above the arch, so I had a board fitted in, and we found quite a change, but it was still defective.

I then took a mortar and plastered up all the joints around the edges of the board. I then had one of the best chimneys in town. My wife could bake once more—something she could not do since we moved into the house, not being able to heat the stove sufficiently for that purpose. I then took off the six feet of sheet iron pipe to see if it would make any change, but it made none.

Things went well for a few weeks. We were once more eating home-made bread, when all at once things changed; the oven of the stove would not get hot enough to bake, and we would have a tremendous smoke in the morning when we made the fire. On examining, I found that some sparks had got on the board, and burnt a hole in it about six inches in diameter. I immediately set to work and put in another and lined the top with zinc. This made the chimney as good as ever.—*Cor. Scientific American*.

PROTECTION OF LEAD WATER PIPES.—Dr. Schwarz of Breslau, notes a simple method of protecting lead pipes from the action of water, by forming on the inside surface of the pipes an insoluble sulphide of lead. The operation, which is a very simple one, consists in filling the pipes with a warm and concentrated solution of sulphide of potassium or sodium; the solution is left in contact with the lead for about fifteen minutes.

A LONDON jeweler has been five years at work upon a watch, and it will be worth \$10,000 when finished.

LIFE THOUGHTS.

CHINESE PROVERBS.—The Chinese have many proverbs that will compare favorably with those of the most highly cultivated nations. We append a few, as follows:—"When mandarins are pure, the people are happy."

"A MAN without money is a reptile; but with money, a dragon."

"In learning, youth and age go for nothing; the best informed take the precedence."

"Those who respect themselves will be honorable; but he who thinks lightly of himself will be held cheap by the world."

"Following virtue is like ascending an eminence; pursuing vice is like rushing down a precipice."

"Let every man sweep the snow from his own door, and not trouble himself about the frost on his neighbor's tiles."

In the hearts of others a manly self-reliance lays corner-stones of regard, esteem, remembrance, love.

To brood over ills which may happen in the future, is to make of imagination an ever present reality.

What we think we need is riches; our real desire is place, esteem, regard, appreciation, love in the heart of humanity.

Wit, humor, and badinage need to be kept under careful control. We endure and expect the playful scratch from our cat's paw, but not her savage bite.

As in the silence of night, the ear catches the least sound, so, in the solitude of reflection, the mind detects soft and delicate strains of thought, unheard in the bustle of the crowd.

The doors of fictitious pleasure are often closed and barred against us, that we may be forced to seek the approaches to real and substantial happiness.

While laboring for some great reward, we learn that we receive an infinite number of lesser ones; the lesser gems clustering about the dazzling brilliant.

God gives to man; man's greatest happiness must consist in doing and giving to others.

Action and Inaction.

Men who have half a dozen irons in the fire are not the ones to go crazy. It is the man of voluntary or compelled leisure who mopes and pines and thinks himself in the madhouse or the grave. Motion is all nature's law. Action is man's salvation, physical and mental; and yet nine out of ten are wistfully looking forward to the coveted hour when they shall have leisure to do nothing—the very siren that has lured to death many a "successful" man. He only is truly wise who lays himself out to work till life's latest hour, and that is the man who will live the longest, and will live to most purpose.

The bright spots of a man's life are few enough without blotting any out; and since, for a moment of mirth, we have an hour of sadness, it were a sorry policy to diminish the few rays that illumine our sunshine and showers. The heart, like the earth, would cease to yield good fruit, were it not sometimes watered with tears of sensibility; and the fruit would be worthless, but for the sunshine of smiles.

HUMANITY.—Each individual shut up within himself—shut up in reticence, secrecy and selfishness—becomes as barren of true life and emotion as the dry sands of the sea shore. Humanity, honestly revealed one to another as to inmost thoughts, emotions and aspirations, becomes the closer knit together from its very separateness.

In the bitter contest with self, the best man may at times fall. The true hero will then set to work, and for himself build another pedestal, broader, stronger, and higher than the last.

The intellect that bases all aspiration and effort on the hope of winning some one exclusive love, leaves the shrine of Infinite Nature, and bows to that of the inferior and finite.

The growth of earth-experience seems like that of oak rooted in rock; hard and blind work is it forcing the way into the ledged crevices; yet the root must so first descend ere the trunk can in the sunlight rear itself—ere it can rejoice in leaf, bud, blossom, fruit.

The cynic, while despising his fellows, forgets that without them to hear and appreciate his sarcasm, he would become, through insolation, the most miserable of mortals.

Editorial Notes from Salt Lake.

Agriculture in Utah.

The first feature that strikes the Californian, in traveling through the farming districts of Utah, is the small divisions into which the agricultural lands are cut up and the small patches of land devoted to each of the different kinds of products by each cultivator. The farms range all the way from 20 to 100 acres, a greater proportion being less than fifty. These small holdings are in accordance with a wise system adopted, and urgently and constantly recommended by Brigham Young and his associates in authority from the first settlement of the country by the Mormons to the present time. The enforcement of this system has been the redemption and support of the country. Had the Mormons encouraged or even allowed their followers to appropriate large tracts of land to themselves and attempt to cultivate broad acres of the cereals at the expense of a diversified agriculture, as we have done in California, their settlement must have proved a disastrous failure from want of the actual necessities of life. The wonderful success which has attended that people as a colony, is attributable more to the wise foresight in the management of the material industries than to all other causes combined; and furnishes one of the strongest arguments in favor of small farms and good cultivation, it has ever been our lot to behold. As a consequence of the small farm system, the farm houses are comparatively close together, giving to the country the appearance of a continued and prosperous suburban village. The houses are generally built of a well formed and dried adobe, or unburned brick, of a light drab color, and in form and style they are patterned after the English Rural Cottage. They are almost universally surrounded by fruit and shade trees in abundance, shielding them from the immediate rays of the scorching sun, and rendering the landscape at once inviting, picturesque and agreeable. The farmers are now just in the midst of their haying. The hay which is generally a mixture of red top Timothy and a wild clover, similar to the California wild clover, is of a most excellent character, and as it is being cured by the sun or being raked together and removed to the barn it gives off a most pleasing and agreeable odor, insensibly transporting the California observer who may chance to be from the Eastern or Middle States, to the scenes of his childhood when, as a child, he gambled in the hay fields of his father.

The meadows are mostly on the natural and unbroken or uncultivated surface of the soil. The Redtop and Timothy have been introduced by sowing the seed upon the surface in the fall or in early spring, and cultivating the same, with a common harrow. The old English Red clover and Lucerne or Chile clover are also cultivated with success, and make most excellent hay. The latter, in some of the southern and warmer valleys of the Territory yields as many as seven crops a year, and is regarded with much favor as an article of food for stock.

The most advanced wheat fields are already being cut, and we noticed that the straw is all bound up in bundles and placed in shocks after the old Eastern style. All the straw is carefully preserved and fed to the stock during the winter season which is quite severe in most portions of the Territory.

Indeed one of the most noticeable features of the Utah agriculture, as contrasted with that of California is the disposition everywhere manifest to save and utilize every product of the soil. This economy seems to be a principle which has been carefully and rigidly instilled into the minds of the people in every department

of industry, and is thoroughly engrafted on the entire political and solid organization of the Territory.

Original Poverty.

Utah was originally settled and has to this day been peopled by a population poor in everything but faith in their religion and determination to succeed in all their industrial undertakings. The pioneers entered Salt Lake valley empty handed, and commenced their struggle for life by the cultivation of a soil naturally almost as barren and unproductive as the sage brush portion of the valley of the Humboldt or the most of the salt or alkaline belts that border the tule lands of the Sacramento and San Joaquin valleys in many places. They were even destitute of necessary tools for the cultivation of this sterile and repugnant soil. Their only capital was the labor of their own hands. Not only this, the immigrants that have annually increased the population of the Territory from that day to the present have all been of the same character. The Mormon population of the Territory is at present about 150,000, and over half of that number, have upon their arrival in the settlement, not only been without any means to help themselves with, but have been indebted to the Central Immigration Association of the Territory for their entire passage and support while coming.

To discharge this indebtedness they have been compelled to devote all their saving, over and above the support of themselves and families, for from four to five years after their arrival. And yet we are informed that 95 per cent. of all the people of the territory to-day own the land and houses in which they live. This poverty of the immigrants has been one of the strongest of circumstances in favor of and inducing a compliance with the policy and recommendations of Brigham to make small farms and to cultivate them well.

Irrigation.

The rain-fall in Utah is generally very light. Not sufficient to ensure the successful production of any of the ordinary crops. Hence in addition to the disadvantages of a naturally poor and sterile soil the people have labored under the necessity of digging ditches and bringing water from the mountain streams to irrigate almost every foot of land now under cultivation in the territory. We are assured by good authority that the average expense of this irrigation has not been less than from \$5 to \$10 per acre.

This circumstance too has operated to induce small holdings and thorough cultivation. No poor man could irrigate and cultivate a large farm and hence he was contented and compelled to own but a small one. To show the fertilizing effects of irrigation upon these alkaline soils we are informed that lands which for the first few years of their cultivation would not produce over 15 bushels of wheat to the acre, are now annually turning off from 35 to 40. Here is a practical lesson of great value to the farmers of California and especially to those who own land impregnated with alkali. In our judgment the alkaline soils of California may, by irrigation, be made the richest and most productive lands of the State. They are naturally much richer and contain less alkali than much of the land in Utah that is now producing large crops of grain.

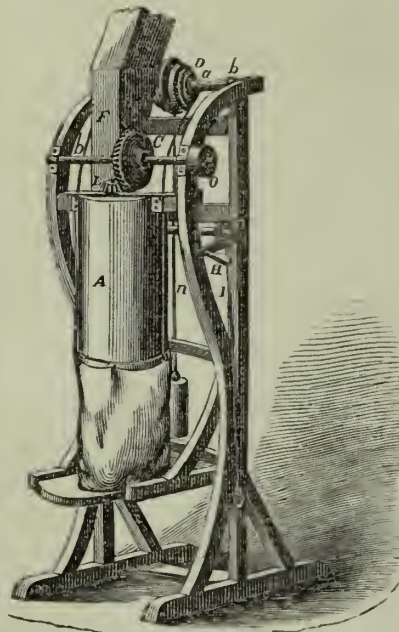
WOOL FRAUDS.—It will be remembered that some time since a quantity of Oregon wool received by Messrs. Koshland Bros., was found to contain a large percentage of dirt, much of it in solid lumps, and evidently intended to defraud the purchaser. The swindle has been followed up, and it seems that a Montana man is the perpetrator. He is said to have purchased the sheep in Walla Walla, sheared them, reselling their fleece to the man who sold them to him, with the addition of the dirt into the bargain.

Flour Packing and Weighing Machine.

We have seen lately, at Wiester & Co.'s, on New Montgomery street, an invention designed for filling sacks or barrels with flour or any fine material, and at the same time weighing the substance into equal quantities. We give herewith an illustration of the machine, the operation of which may be described as follows:

The barrel or sack into which the flour is to be packed, is first placed around the lower part of the drain or cylinder, A, and secured in place by hooks, when a gate at the bottom of the hopper, E, located at L, is opened and held thus by a spring, not shown, while the flour is conveyed by a spiral conveyor or packer into the sack at the bottom of the cylinder. This packer is worked horizontally within the cylinder, A, by the bevel gear, C, operated by a hand crank on the shaft, b; or power may be attached to the pulley on the opposite extremity of the shaft. The flour, or other material to be packed, is fed in any proper manner from a convenient receptacle through the hopper, F. By the action of the spiral packer, the material is compressed, as fast as delivered into the sack, to any reasonable degree of closeness.

The platform on which the sack is seen



to rest is elevated by the pulley and weight, D, at the commencement of the operation, to near the bottom of the cylinder, A; the sack at the same time being brought up around and upon the outside of the cylinder. By this arrangement, the filling and packing commences in the bottom of the sack, and progresses gradually; the sack, with the platform on which it rests, dropping as fast as the filling goes on. This is so arranged by weights and springs, that when any desired amount of material has been placed in the sack, an automatic action closes the gate at the bottom of the hopper, and prevents the ingress of any more material. The machine can be adjusted to any desired amount, from twenty-five pounds upwards to 200 or more; the whole process of filling, packing, weighing and cutting off at the proper moment, being automatic in action, by the attendant merely turning the crank or shaft, b, or applying power to the pulley upon the same. The only attendance required is to place and secure the sack on the cylinder, as seen in the engraving, and to remove the same after being filled.

The invention appears to be a very useful and practical one. It is applicable to small grain, such as wheat, etc., as well as to flour and other pulverized material. It is extremely simple, light and does not appear to be particularly liable to get out of order. A working model of the machine may be seen at Wiester & Co.'s, 17 New Montgomery street (Grand Hotel), and we recommend flour packers and others to examine it.

California Experience in Blackberry Culture.

EDS. PRESS:—To-day I received a copy of the PACIFIC RURAL PRESS, of the issue of May 27th, in which was an article on the cultivation of blackberry, and being interested in that culture, I will give you my experience in California. In the article referred to, the writer states that the blackberry is of easy culture. My experience is the reverse;—I find they require much time and attention. Our vines were originally planted six feet apart, each way, but they have shifted themselves by the new canes springing up each year, not in the center, but off to one side of the old vines, thus causing quite a divergence in a few years.

They require much more than simply taking away the old wood. We begin and continue as follows:—This summer, while the berries are growing, the canes which are to produce the next year's crop sprout up and grow rapidly. When these new canes reach the height of three and a half to four feet, we clip off the end, which renders the stalk stout and strong, while at the same time it causes the laterals to shoot out, which are in turn also cut back to about eighteen inches; this prevents the breaking down when loaded with fruit, which they would be certain to do if left to grow long.

This labor of spring cannot all be done at one time; but as the canes and their laterals grow, they must be attended to, which of course necessitates repeated inspections and pruning. After the fruit is gathered we clip off the old vines or canes close to the ground, reset the stakes and tie up the new canes. This work is anything but easy on account of the thorns which not only scratch but tear your clothing, pull off your hat, etc. You must not lose your temper, however, for that will only make matters worse.

As regards the grounds—we find the richer the soil the better the fruit; a rich, loose, porous soil, which will drain well, is what suits them the best with us. Our experience is with the Lawton, of which we have 3,000 hills or stands, and from which we gathered, in 1870, thirteen tons, and in 1869, sixteen tons of berries from the same vines. We last year began picking on the 3d of July, and continued until the 6th of September. We irrigate by the use of hose, iron pipe and spouts, connecting with springs in the hills around the vineyard.

Our system of weighing differs so much from the eastern method of measurement that it is not very easy to compare the amount of products per acre, or per number of vines, which latter is the most proper way—more anon.

R. M. SWAIN.

Rockland Farm, Napa, July 15, 1871.

QUICK WORK.—Mr. M. C. Ellis, a heavy rancher of Sutter county, cut, thrashed, ground into flour a sack of wheat and had biscuit for breakfast of it on the same morning. This is ahead of the Bidwell exploit, when it took until supper time of the day to effect the same thing.

FARM LABORERS.—A contract for twenty five farm laborers, to be imported by Messrs. Vale & Warner direct from Scotland, has been arranged. This comes from the difficulty of getting men to leave our city for the rural districts.

THE FIRST BALE OF RAMIE ready for the market has been prepared by M. Adolphe Burchard, of New Orleans, who is the inventor of a ramie machine of great value and importance.

FIRST OF THE SEASON.—The English ship Moosung has just sailed with wheat loaded at Vallejo. She is the first wheat vessel of the season from the Pacific coast.

SOMETHING WORTH THINKING OF.—More money is expended, in a single year in the United States, for tobacco and alcoholic drinks, than would suffice to pay off the entire national debt of the union.

BROOM CORN.—Seven cents per pound is offered for the crops of broom corn raised in Sutter County. Last year the article was worth only three or four cents.

California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, Thurs., A. M., July 20th.

FLOUR—There has been a fair demand for local consumption, with a better enquiry for export; The millers dropped another 25c. per barrel, on Monday for extra, holding to former figures for superfine, and the market still shows a downward tendency.

Transactions embrace 3,000 bbls. California extra, 2,500 bbls. Oregon extra, and 6,000 bbls. California superfine. The latter for export, and on private terms.

We quote superfine, \$6.12½@6.25; extra, in sacks, \$6.75@6.87. Standard Oregon brands may be quoted \$6.62@6.75.

WHEAT—New crop is coming in slowly, and prices show a declining tendency with a quiet market. New wheat, can now be had for \$2.20@2.25. Old is selling at \$2.25@2.30—a small decline from our last reference. Some fancy lots have been sold at higher rates. Sales of 15,000 sacks have been reported, during the week, at current rates. Exporters affirm that they cannot pay over \$2.00 under present Liverpool rates.

The Liverpool market was telegraphed on Thursday at 11s. 5d.—a decline since our last reference of 4d. New York rates, \$1.65.

BARLEY—The new crop is coming in freely and prices remain steady. Sales during the week have aggregated about 13,000 sks. The range of new crop may be quoted at \$1.72@1.75—choice old brewing, at \$1.97@2.05.

OATS—Have been in fair demand at about former rates. Sales of 4,000 sacks are reported at from \$1.87@2.00 for light to good.

CORN—The market may be quoted at \$2.05@2.10, market inactive, with a fair supply. A sale of 450 sacks yellow is reported at the latter figure.

CORNMEAL—Is quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—Still quotable at \$3.

RYE—Nominal at \$2.50 for choice.

FEED—We quote: STRAW, \$8@9; BRAN, 30.00 at mill; MIDDINGS, 45.00; OIL CAKE MEAL \$40.

HAY—The receipts are with good demand. We quote ordinary to choice at \$15.00@19.00 per ton. A cargo of choice, new wild on sold at \$17.50, and one of choice new wheat at \$19.50.

HONEY—We quote Los Angeles comb 13@14c. Potter's in 2-lb. cans, \$4.50 per doz.

POTATOES—The receipts having been very free, and the demand somewhat limited; prices have declined, and we quote the range at 75c@1.10 for ordinary to choice.

HOPS—Demand light—prices nominal at 9@12½c. for California.

HIDES—We quote Dry, slaughterer's stock, 16@18c; Salted, 8@9c. Salts during the week 1,620 Cal. dry, and 1,720 salted.

WOOL—There is a ready sale for all that comes to market. Receipts, however, are very small, as usual at this season of the year. We quote the range of fair to choice shipping grades at 30@35c for California, and 38@42c for Oregon. Sales of 55,000 pounds are reported for the week.

As an indication of what the fall clip may be expected to bring, we note a lot of fall of 1870 sold at 28c, and a lot of this season's lambs' at 35c. per lb.

TALLOW—The extremes may be quoted from 8@9½c.—The latter extra choice.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 14½@15c; Oregon, 14@14½; Chicago 16c; California Hams 14@15; Oregon do, 15@15½c; California Sugar-cured Hams, 16@17c; Oregon do, 17@18c; Eastern do, 18@20c; California Smoked Beef, 13@14c.

BEANS—Extremes of quotations—Bayo, \$2.75@3.00 Butter, small White and Pea, \$2.00@2.25; Pink, \$1.75.

ONIONS—We quote red at 80@90c, and yellow at 90c@1.00.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c per lb.

FRUIT—Tahitian Oranges, \$12 50@15; Limes, \$15@20 per 1,000. Sicily Lemons, \$16 per box; California, do, \$6@6 50 per 100. Bananas, \$1 50@2 50 per bunch; Coconuts, \$12-50@15 per 100; Apples, 50c@1 25; Pears, 75c@

\$1 per box. Peaches, 35@75c, and Crawford's, \$1 50@2; Apricots, 50@75c; Nectarines, 75c@1 per basket. Cherries, 8@18c; Currants 5@7c; Raspberries, 12½c per lb; Plums, 75c@1 per basket. Strawberries, 8@9c; Blackberries, 4@8c; Figs, 6@7c; Grapes, 3@8c per lb.

VEGETABLES—Cabbage is selling at 1½@1¾c; Asparagus, 7c; Rhubarb, 2@3c; Garlic, 1@1½c; Green Peas, 1¼@2c; String Beans, 2½@3c; Summer Squash, \$1@1 25; Tomatoes, \$1@2; Cucumbers, \$1@1 25 per box; Green Corn, 20@35c per doz; Watermelons, 18@25c each, and Canteloupes \$2@5 per doz; Egg Plant, 3½c; Okra, 6c per lb. Marrowfat Squash, \$5@8 per ton.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c per lb. Do 2d quality 6@7c per lb. Do 3d do 4@5c per lb.

VEAL—Extremes, 7@10c.

MUTTON—4½@5c per lb.

LAMB—May be quoted at from 6@6½c per lb.

PORK—Undressed is quotable at 5@6½c.

dressed, 8½@9½c.

POULTRY, ETC.—Is in limited demand

Hens \$5.00@5.50; Roosters \$5@6.50; Ducks, tame, \$4.50@5.50 per doz; geese, tame, \$1.50@1.75 per pair; live turkeys, 17@18c per lb.

WILD GAME—Hare, \$1.50@2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 27½@30c;

California firkin butter, 25@30c. Eastern firkin 15@25c.

CHEESE—In fair supply, California new, 10@14c., California Factory 16c., Eastern, 15@16c. for new.

Eggs—California fresh, 38@40c.

LARD—California Lard, 11-lb tins, 14@15c; Oregon in bbls. 14½c.; Eastern do. 13@14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|--|---------------|---------|
| Rough, each, 10' x 12' x 12' | \$15.00 | \$11.00 |
| Surfaced, 10' x 12' x 12' | 28.00 | 18.00 |
| Tongued and grooved, 10' x 12' x 12' | 28.00 | 18.00 |
| Tongued and grooved, beaded, 10' x 12' x 12' | 28.00 | 18.00 |
| Rustic, worked, 10' x 12' x 12' | 31.00 | 20.00 |
| Siding and battens, 10' x 12' x 12' | 20.00 | 14.00 |
| Surfaced, 10' x 12' x 12' | 25.00 | 18.00 |
| Picket, rough, 10' x 12' x 12' | 14.00 | 10.00 |
| Picket, rough, pointed, 10' x 12' x 12' | 16.00 | 12.00 |
| Picket, dressed, 10' x 12' x 12' | 22.50 | 15.00 |

DRIED FRUITS—The market quiet. We quote prices as follows: Cal. Dried Apples, 10@12c; Oregon do, 11@12c; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, German, 11c per lb; Raisins, layer, \$3.25@3.75 per box; Currants, Zante, 10½.

TABLE OF MISCELLANEOUS.

| | | |
|------------------------|---------------------|------|
| Sugar, crsh'd, lb. 12 | Hemp Seed, lb. 7 | 9 |
| Hawaiian, lb. 9 | Castor Beans, lb. 4 | 4½ |
| Coffee, Cos. I, lb. 15 | Castor Oil, gal. 1 | 75 |
| Rio, do. 16 | Linseed Oil, gal. 1 | 1 05 |
| Tea, Japan, lb. 50 | Broom Corn, lb. 3 | 5 |
| Green, do. 50 | Beeswax, lb. 27 | 30 |
| Rice, Haw'n, lb. 8½ | Peanuts, lb. 5 | 7 |
| China, do. 50 | Corn Meal, cwt. 2 | 50 |
| Coal Oil, gal. 50 | Omnous, cwt. 1 | 50 |
| Candles, lb. 15 | | 18 |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SOLE LEATHER—Eastern shipments still keep the market in and the demand good.

City Tanned Leather, per doz. 26@30

Santa Cruz Leather, per doz. 26@30

Country Leather, per doz. 25@28

The French market remains the same. California skins are higher and in demand.

Jodot, 8 Kil. per doz. \$62.00

Jodot, 11 to 19 Kil. per doz. 82.00@96.00

Jodot, second choice, 11 to 15 Kil. per doz. 68.00@88.00

Lemoine, 16 to 19 Kil. per doz. 96.00@100.00

Levin, 12 and 14 Kil. per doz. 72.00@70.00

Cornellian, 16 Kil. per doz. 72.00@70.00

Cornellian, 12 to 14 Kil. per doz. 68.00@70.00

Ogerau Cal. per doz. 54.00@50.00

Mercier Cal. 16 Kil. per doz. 65.00@60.00

Common French Cal. Skins, per doz. 35.00@75.00

French Kips, per doz. 1.00@1.30

California Kip, per doz. 60.00@75.00

Eastern Wheel Stuffed Cal. per doz. 80.00@1.25

Eastern Bench Stuffed Cal. per doz. 1.10@1.25

Eastern Cal. for Backs, per doz. 1.15@1.25

Sheep Roams for Topping, all colors, per doz. 5.50@10.50

Sheep Roams for Lining, per doz. 5.50@10.50

California Russet Sheep Linings, per doz. 1.75@5.50

Best Jodot Cal. Foot Legs, per pair. 4.50@5.00

Good French Cal. Foot Legs, per pair. 4.00@4.50

French Calf Foot Legs, per pair. 3.00@3.75

Harness Leather, per doz. 48.00@72.00

Fair Bridle Leather, per doz. 34.00@37.50

Welt Leather, per doz. 30.00@50.00

Buff Leather, per foot. 20.00@24.00

Wax Side Leather, per foot. 18.00@20.00

San Francisco Retail Market Rates.

FRIDAY, July 21, 1871.

MISCELLANEOUS.

| | | | |
|-------------------------|----|-----------------------|-----|
| Butter, Cal. fr. lb. 35 | 45 | Wool Sacks, new 40 | 90 |
| Pickled, Cal. lb. 35 | 45 | Second-hand do 75 | 70 |
| do Oregon, lb. 35 | 45 | Wheat-sks, 22x36 15 | 12½ |
| Honey, lb. 25 | 30 | Potato G'y Bags. 22 | 23 |
| Cheese, lb. 20 | 25 | Second-hand do 15 | 16 |
| Eggs, per doz. 35 | 45 | Deer Skins, lb. 15 | 22 |
| Lard, lb. 18 | 20 | Sheep skins, w/ on 50 | 75 |
| Sugar, cr. 6½ lb. 10 | 13 | Sheepskins, plain 12½ | 25 |
| Brown, do. 10 | 13 | Groat skins, each. 25 | 40 |
| Beet, do. 1.00 | | Dry Cal. Hides. 15 | 16 |
| Sugar, Map. lb. 25 | 30 | Salted do. 9 | 9 |
| Plums, dried, lb. 15 | 25 | Dry Mex. Hides. 15 | 16 |
| Peaches, dried, 15 | | Saltine, do. 9 | 9 |

PRODUCE, ETC.

| | | | |
|-------------------------|-------|---------------------|-------|
| Codfish, dry, lb. 6.00 | 12½ | Barley, cwt. 1.75 | 61 85 |
| Flour, ex. bbl. 7.00 | 75 | Beans, cwn. doz. 50 | 63 00 |
| Superfine, do. 5.50 | 60 | Potatoes, cwt. 1.00 | 1 00 |
| Corn Meal, 100 lb. 3.00 | 62 25 | Potatoes, new. 50 | 61 15 |
| Wheat, 100 lbs. 2.35 | 50 | Hay, 1 ton. 16.50 | 20 75 |
| Oats, 100 lbs. 1.90 | 22 10 | Live Oak Wood. 9.00 | 10 00 |

FRUITS, VEGETABLES, ETC.

| | | | |
|-------------------------|--------|------------------------|-------|
| Pine Apples, t. 5.00 | 90 00 | Cabbage, per doz. 75 | 10 50 |
| Bananas, lb. 3.00 | 90 00 | Carrots, per doz. 10 | 25 |
| Cal. Walnuts, lb. 75 | 100 00 | Celeriac, per doz. 75 | 61 00 |
| Crabapples, lb. 75 | 100 00 | Cress, per doz. 20 | 25 |
| Crabberries, lb. 75 | 100 00 | Dried Herbs, lb. 25 | 50 |
| Apples, Early, lb. 50 | 25 50 | Egg Plant. 8 | 17½ |
| Red Astran, lb. 50 | 25 50 | Garlics. 5 | 8 |
| Red June, lb. 50 | 25 50 | Green Peas, lb. 25 | 50 |
| Pears, table, lb. 75 | 61 25 | Green Corn, lb. 25 | 50 |
| Plums, Cherry, 6 | 8 | Pickles, per gal. 20 | 20 |
| June, lb. 10 | 12½ | Sugar Peas, 5 | 8 |
| Apricots, Royal, 3 | 4 | Cucumbers, doz. 15 | 25 |
| Moorpark, lb. 3 | 5 | Lettuce, per doz. 12 | 25 |
| White, lb. 2 | 4 | Mushrooms, lb. 25 | 50 |
| Cherries, lb. 5 | 10 | Okra, dried, lb. 50 | 50 |
| Currents, lb. 6 | 8 | Okra, green, lb. 25 | 50 |
| Gooseberries, lb. 3 | 8 | Pumpkins, lb. 3 | 4 |
| Raspberries, lb. 18 | 20 | Parsnips, bunches 25 | 25 |
| Strawberries, lb. 8 | 20 | Parsley, lb. 50 | 75 |
| Blackberries, lb. 8 | 20 | Pickles, per gal. 20 | 20 |
| Oranges, per cwt. 30.00 | 60 00 | Rhubarb, lb. 6 | 75 |
| Limes, cwt. 25.00 | 60 00 | Radishes, b. bunch 25 | 25 |
| Figs, dried, lb. 6 | 10 | Red, do. 25 | 25 |
| White, lb. 6 | 10 | Summer Squash. 6 | 6 |
| Artichokes, doz. 50 | 75 | Marrowfat, do. 6 | 6 |
| Brussels' sprts, 20 | 25 | Hubbard, do. 5 | 5 |
| Beets, per doz. 20 | 25 | String Beans, lb. 6 | 8 |
| Patatoes, lb. 2 | 3 | Dry Lima, sh. 25 | 50 |
| Potatoes, sweet, 10 | 20 | Spinage, per bush. 12 | 25 |
| Broccoli, per doz. 1.50 | 20 00 | Salsify, Cal. bunch 10 | 25 |
| Cauliflower, t. 1.00 | 30 00 | Turnips, per doz. 8 | 10 |
| | | New Tomatoes, 8 | 10 |

POULTRY, GAME, MEATS, ETC.

| | | | |
|-------------------------|--------|------------------------|--------|
| Chickens, apiece 50 | 75 | Bacon, Cal. lb. 18 | 20 |
| Turkeys, lb. 20 | 25 | Oregon, do. 18 | 20 |
| Ducks, wild, lb. 50 | 75 | Hams, Cal. lb. 18 | 20 |
| Tame, do. 1.50 | 20 | Hams, Cross' s c 25 | 25 |
| Teal, per doz. 25 | 25 | Choice D'field 25 | 25 |
| Geese, wild, each 2.50 | 30 00 | Whitetail, lb. 25 | 25 |
| Tame, pair, 2.50 | 30 00 | Johnson's Or. 10 | 12½ |
| From Chicago. 75 | 85 | Salmon, lb. 10 | 12 |
| Hens, each. 75 | 85 | Smoked, new, 10 | 12 |
| Snipe, per doz. 25 | 25 | Pickled, lb. 6 | 8 |
| English, do. 25 | 25 | Green Cod, lb. 10 | 12 |
| Venison, lb. 10 | 15 | Kingfish, lb. 10 | 15 |
| Quails, per doz. 20 | 25 | Perch, s water, lb. 10 | 12½ |
| Pigeons, dom. doz 00 | 35 00 | Fresh water, lb. 12½ | 15 |
| Wild, do. 1.50 | 20 00 | Lake Big Trout* 20 | 25 |
| Hares, each 40 | 50 | Smelts, lb. 6 | 8 |
| Rabbits, tame 50 | 100 00 | Illicorpa, fresh 10 | 10 |
| Wild, do. 1.75 | 20 00 | Sin'kd, per 100 15 | 20 |
| Squirrel, pair. 25 | 30 | Tomcod, lb. 15 | 20 |
| Beef, tend. lb. 20 | 25 | Terrapin, doz 3.00 | 40 00 |
| Sirloin and rib 18 | 20 | Mackerel, p. k. e. 10 | 12 |
| Corned, lb. 10 | 12 | Fresh, do. 25 | 25 |
| Smoked, lb. 15 | 18 | Sea Bass, lb. 25 | 25 |
| Pork, rib, etc. lb. 12½ | 15 | Haddock, lb. 62 | 75 |
| Chops, do. lb. 12 | 15 | Sturgeon, lb. 4 | 5 |
| Veal, lb. 15 | 20 | Oysters, lb. 100.1 | 00 125 |
| Cutlet, do. 20 | 25 | Cheep, per doz. 60 | 62½ |
| Mutton chops, 12½ | 15 | Crabs, per doz. 10 | 10 |
| Leg, lb. 12½ | 15 | Soft Shell. 37 | 50 |
| Lamb, lb. 12½ | 15 | Shrimps. 10 | 12 |
| Tongues, beef, ea 15 | 15 | Pompinio, lb. 1.10 | 10 |
| Tongues, pig, ea 15 | 15 | | |

* Per lb. † Per dozen. ‡ Per gallon.

GOOD FOR FRUIT GROWERS.—Messrs. Morgan & Co., have started a new Box Factory at 103 Washington street, this city, and are selling boxes at remarkably cheap rates. They are prepared to make contracts, and those interested should send for circulars, samples, etc. They are reliable and prompt business men.

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It is a work which no farmer should be without.—*[Frederick Union.]*

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—*[Ensign.]*

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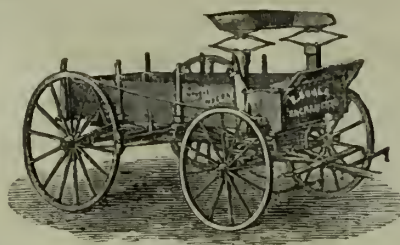
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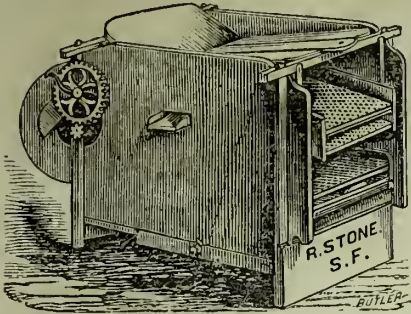
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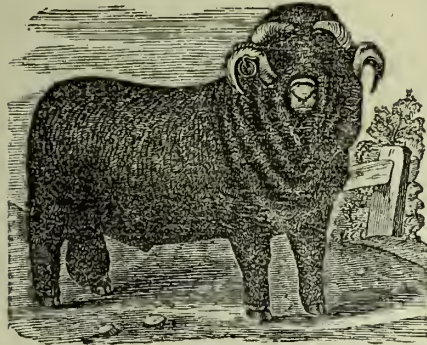
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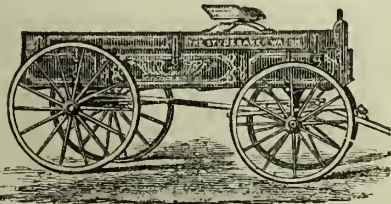
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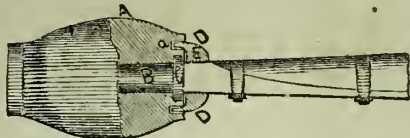
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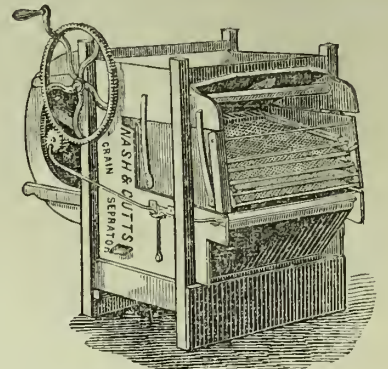


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The following resolution was unanimously adopted by the M. W. Grand Lodge, F. A. M. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.

At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:

Resolved, That we recommend the MASONIC MIRROR, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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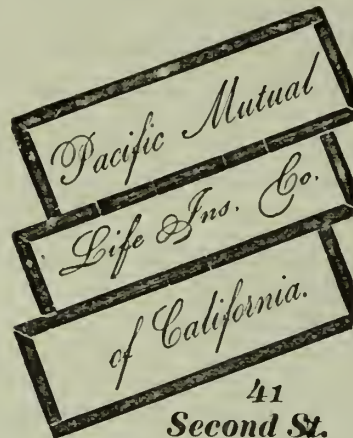
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As the privileges of our inventors are cut off in some countries, and curtailed in others, if not applied for soon after the issue of the U. S. patent, we advise inventors whose patents will be valuable in various populous civilized countries, to lose no time in applying for patents whenever they intend to obtain them for themselves or the benefit of others—with their own means or through the resources of those who are permitted to share the benefits. It must be remembered that the English (and some other important nations) invite the early introduction of inventions into their realms, by offering patents to the first introducer (which means the first applicant), without regard to the rights of the actual inventor, who has no after recourse.

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Full particulars regarding any countries not named above, will also be given when desired.

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Modes of Growing Rice in South Carolina.

A knowledge of the mode of cultivating rice in South Carolina may be of use in the culture of a different variety of the grain in another climate, on a different soil, and with another kind of labor. But it may be totally inapplicable.

I know of no essay or article in print, on this subject, which does not presuppose some knowledge of the matter, in order that the reader should understand it. All that I have seen embrace only parts of the subject, and are full of technical terms peculiar to rice planters, or rather rice growers.

I will endeavor to give such an explanation of the mode of preparing lands for the culture of rice, and of the process of cultivation, as may be understood by one to whom the whole matter is new. I have to do it on short notice, and must be necessarily brief, and can furnish but rude drawings and diagrams to assist in explaining what I here write.

The variety of rice cultivated in South Carolina, for market, is called "Gold seed," from the bright golden or yellow color of the husk or chaff, which encloses the kernel or grain, which is of itself a pearly color. Another variety, called "White Rice," differing from the former in the pale straw color of its chaff, and in a greater tendency of the grain to break off from the ear when it is being cut and removed from the field, is also cultivated to a small extent. The White rice is said to have been introduced from Madagascar, and was superseded by the Gold Seed, which is said to have been brought from India.

The rice lands in South Carolina are either tide swamp or inland swamp. My experience is confined to the former.

Rice is chiefly and most successfully cultivated on what are called "tide swamp lands," that is, alluvial lands situated on a river, and so near to its mouth as to afford a rise and fall of the tide not less than three and a half feet at spring tides, and so far from the sea that the water is usually fresh at high water tide, at least during the spring and summer. Between these two points all the alluvial tide lands worth planting in rice are to be found, and the extent of this region up and down this stream, and also its breadth from highland to highland on each side or the alluvial valley of the river, varies with each particular river. The soils of these alluvions also vary greatly. The best have a large proportion of bluish or brownish clay intermixed with and underlying the vegetable mold. That which is black in color, and peaty in its appearance is generally bad, though there are striking exceptions to this remark. A shallow mold with sand underlying it near the surface is always bad.

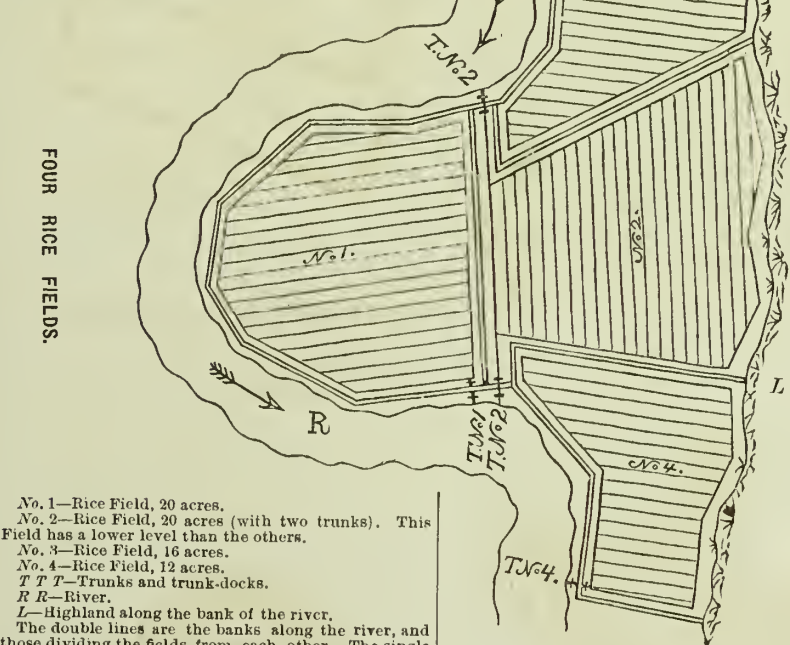
The crops sown highest up the river are liable to be injured by inundations or freshets; those lowest down the river by the want of fresh water during a drouth, at a season when the plant needs water. Lands situated between these two extremes are the safest and most valuable. A rise and fall of six feet in the tide is advantageous—say at high water on the spring tide, one and a half feet above the level of the alluvial land, that gives high enough to flow the fields, and four and a half feet, at low water, below the level of the land, will allow of good drainage.

To convert such lands from a state of nature into a rice plantation, or a number of rice fields, requires some skill and much labor, as will be seen by the illustration accompanying this article.

As these lands are subject to be overflowed at high water, at spring tides at least, you must be able to control this overflow, that is permit or prevent it at your pleasure. To do this, the land must be surrounded

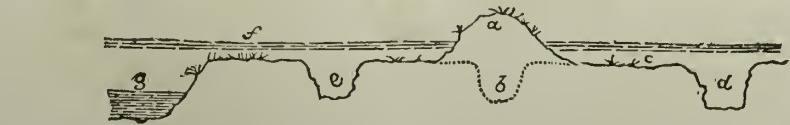
by a dike or embankment, except where it abuts against adjacent highland. In South Carolina, few rice fields are three feet below the level of the spring tides, and the best are not two below them, so that banks four feet or four and a half feet are sufficiently high.

The dike or bank is made thus: The space it is to occupy is laid out 12 feet wide along the land near the river, leaving a margin of at least 20 feet between it and



No. 1—Rice Field, 20 acres.
No. 2—Rice Field, 20 acres (with two trunks). This field has a lower level than the others.
No. 3—Rice Field, 16 acres.
No. 4—Rice Field, 12 acres.
T T T—Trunks and trunk-docks.
R R—River.
L—Highland along the bank of the river.
The double lines are the banks along the river, and those dividing the fields from each other. The single lines are the ditches running parallel with the banks. The light parallel lines across the fields are the quarter-drains. This is not the plan of any particular field or by any scale, but merely by the eye to explain what is written.

the river at the points where it approaches it nearest. Along, and in the middle of this space laid out for the bank, a ditch is then excavated three feet wide and three feet deep, the earth being heaped on the side toward the river. This is called a center ditch, and its object is effectually to prevent leaks in and under the future bank in making which the center ditch is filled up, the earth being well packed and rammed into it. Then you lay out another ditch parallel with the course of the bank at about 15 or 20 feet from the inner edge of the bank being next the river. This ditch must be excavated six feet wide at the top, three or four at the bottom, and five feet deep—all the earth being thrown out on the side towards the bank. With this earth and that which came out of the center ditch the bank is made in and on the center ditch; as this will probably be insufficient to make the land high and wide enough, you cut another ditch on the margin between the river and the bank to complete it. It should be cut at least 10 or 15 feet from the bank. It should not be a continuous ditch so that a stream of water can run through it, but rather a succession of short ditches separated by several feet of

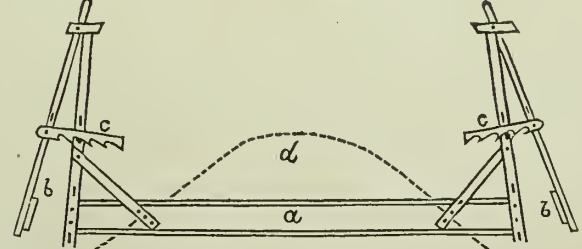


Profile of Cross Section of Rice Field, Bank and Ditches.
a—Bank four and a half feet high. b—Center ditch filled up. c—Inner margin. d—Ditch. e—Outer ditch, not continuous. f—The river at highest tide. g—Low water.

unbroken soil between their ends, that they may in time be filled up with soil. The bank and inner ditch run all around the field and inclose it.

But it is necessary not only to be able to

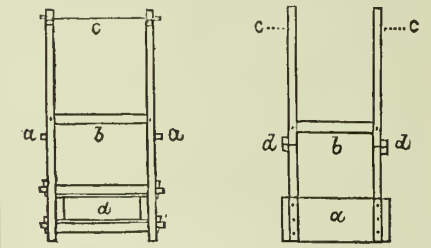
keep the water out of the field, but also to have the means of letting it in at high tide or of letting it out at low tide, at your option. For this purpose, a kind of small flood-gate (subterranean flood-gate) is used, called a "trunk." Thus:



A Rice Field Trunk—Side View.
a—Water way, length 25 feet.
b—Doors.
c—Ratchets to keep the doors open at any required width.
d—Bank.

The trunk is a large tube made of wood, put down horizontally under the bank (at some convenient point for draining and flowing) at right angles with the course of the bank. The bottom of this tube, which is the water way of the trench, is about four and a half feet below the level of the surface of the alluvial land, or field. A short

when the trunk doors close them, the water will flow from the river into the field during flood tide, and out of the field into the river on ebb tide. At each end of the trunk are two posts, one on each side secured to the trunk by a frame work. Attached to the upper end of each pair of these posts by a rod which serves as a pivot are two slighter posts or arms. The lower end of these arms (each pair of them), are firmly fastened to a wooden valve or



Trunk—Front View.
a—Ratchet pins.
b—Brace to posts.
c—Pivot rod.
d—Water way.
Trunk Door—Detached from Trunk.
a—Door.
b—Brace to the arms.
c—Pivot rod holes.
d—Ratchets.

door, which is made to cover and close the open mouth of the trunk. The door and its arms swing freely on the pivot rod which passes through the tops of the arms also. The ratchet bar attached to the door-arms may be caught on its pin so as to keep the door open, that is, one, two or more feet from the trunk. The water on flood-tide runs into the trunk, the inner door yields easily to the pressure, the ditch is soon filled and the field soon begins to be covered with water. But on the ebb tide, as the water falls in the river, the water in the field attempts to flow out, but the smallest pressure of the returning-water shuts the inner door of the trunk and the water is kept in the field. The next flood tide will put more water in the field if it is wanted. As both ends of the trunk and both doors are exactly alike, you can reverse the process, and keep the field flowed or drained, at your option.

The trunk is usually put down while you are making the bank, as it is almost immediately useful in keeping the land drained and so facilitating work on it.

Description of Trunk.

This trunk consists of two timber sides, each 25 feet long, 18 inches wide and 4 inches thick. They are placed parallel to each other, four feet apart, and are secured to each other by a number of plank 4 feet 8 inches long, fastened to each end by stout wooden pins, to one of the sides, and jointed so as to get closely up to each other; the whole making a strong wooden box 25 feet long, 4 feet wide and 18 inches deep in interior capacity, but open at the ends. Over each end of this box, a frame made of 8x4 scantling is closely fitted as seen in the drawing of the front view of the trunk—the perpendicular parts of the frame being 11 feet long, and forming the posts or uprights on which the trunk and doors are hung. The frame is strongly pinned on to the trunk and over hangs the length of the trunk a 1/4 inch, that the trunk door may shut flush or level against the frame and be almost water-tight when closed.

With a good rise and fall of tide, such a trunk will serve a level rice field of from 12 to 20 acres, flowing in two tides, and draining in the interval.

[Concluded next week.]

MECHANICAL PROGRESS.

STEAM TYPE-COMPOSING MACHINE.—The *Mechanics' Magazine*, July 1st, says that A. Mackie, of the *Warrington Guardian*, has invented a machine which really does efficiently the work of the compositor. It consists of a perforating and a type-setting machine. The former is a small apparatus with 16 finger keys, which prepares strips of paper which govern the type-setter. The strips are about 2 in. wide, perforated with a central, continuous row of equidistant holes, on each side of which are eight other rows, not continuous but intermittent. These strips are to the type-setter what the Jacquard cards are to the loom. The rate of production with one perforating machine is about 10,000 letters per hour. The composing machine is a circular metal framing, having around its periphery 29 boxes or "pockets," each divided into 8 compartments, 7 for letters and 1 for spaces. A lip at the bottom prevents the type from falling out, but room is left for the insertion of the "pickpocket." Inside the circle of pockets another wheel revolves, carrying a number of type-extractors, or "pickpockets," arranged around its periphery. Each pickpocket has a receiving table, in which are formed 8 holes through which pins are caused to rise. These tables are hinged and can be lowered so that any type on them will clear the pockets, or they can be raised horizontally to pass close under the pockets. If when thus raised any of the pins project above the face of the table, each pin, passing under a pocket, will draw out a type from that division under which it passes. Such types fall on the receiving table, which is then depressed and carries the types to the point of delivery. The perforated paper strip is fed into the machine and fed forward by pins fitting the central row of holes. Sixteen levers with pegs are always seeking to enter the other perforations. Two of the first eight levers find the perforations which set the pickpockets, so that they will act on the proper pocket. The second eight levers find holes according to the word wanted, so that a pickpocket can take type out of all the 8 divisions of any pocket simultaneously, when necessary. A certain method of arrangement is observed in placing the types in the pockets, and thus Mr. Mackie has been able to produce combinations by which he can withdraw from the pockets, each at a single operation, about 700 words or parts of words. We have thus a machine possessing the almost wonderful power of composing complete words at one operation. The types are discharged from the receiving tables, by proper devices, in a continuous stream into lengths of brass rule. Then manual labor removes them at times, divides them into lines, and justifies. The distribution of the letters into duplicates of the pockets is done by boys. The composing power of the machine is stated to be 12,000 letters per hour, equal to a column of the *Times* in minion, or small type. The machine has been operating for nearly a year for the *Guardian*, and is now used for the *Graphic*, and is highly praised.

BALLOON COMPASS.—The French astronomer, Jausen, has invented a compass for determining the course and speed of balloons. It is described in the *Comptes Rendus* of last February. It consists of a cylindrical metal case, $3\frac{1}{2}$ to $4\frac{1}{2}$ inches in diameter, and the same in height, with a glass bottom and open at the top. Two small arms on branches rise from the upper end of the case and support between them a little metallic disk 10 to 12 in. above the glass bottom. This disk serves as an eye piece, having a small hole in it in the line of axis of the cylinder. Upon the glass bottom are engraved a number of concentric graduated circles, whose radii are so calculated as to be visible through the eye piece under angles of 1° , 2° , 3° , and 10° . Four diametrical lines divide the largest circle (the "great circle") at equal distances. The instrument is hung by a Cardan apparatus so as to insure verticality during observation. A compass needle is fitted to the glass bottom, a little eccentrically (to leave the vision unimpeded) and is provided with a small graduated circle, of which the needle's pivot is the center, so divided that the cord of 180° may be parallel to the line 0° — 180° of the great circle. By looking at points on the earth through the eye piece, and by the aid of calculations, the course and speed of the balloon can be ascertained.

AUTOMATIC OR FAST-SPEED TELEGRAPH.—Prof. Wheatstone's apparatus consists of a perforator, a transmitter and a receptor. The perforator is an iron case with three keys struck down by the operator. These keys work with three punches which produce holes corresponding to dots, dashes and spaces in the strip. The transmitter consists of a clockwork which draws the prepared paper continuously forward by the teeth on the periphery of a spurwheel entering the central line of holes of the paper. The holes on the one side or the other represent the positions of positive or negative currents. Two small vertical pins move up and down underneath the paper strip, one under each row of holes. When a hole occurs, the pin rises through it and, by a connecting lever, suitable contact is made with the battery. When no hole occurs, the pin stops against the paper and no contact is given. The receptor is similar to the ink-recording Morse apparatus, but of somewhat finer arrangement and very light, thus allowing great sensibility and fast working.

The Siemen's system differs principally in providing the paper strip with a continuous line of holes previous to punching it with holes for giving currents, and in the current-holes being provided in the requisite groups by punches worked by a keyboard, so that the operator has only to press one key for each letter, instead of composing the letters of the elementary signals. The keyboard has as many keys as there are letters, figures and punctuation marks. The momentary touch of a key punches properly and advances the strip for the next punch. The transmitter is arranged either for magneto-electric or for galvanic currents. For the latter the contacts with the alternate holes are given by a special commutator of the form of a roller cut in halves, which come together in saw-teeth and fit into one another without touching. The halves connect with the two poles of a battery, and as the holes in the paper strips occur at intervals corresponding to the breadth of the teeth, the contact spring or brush falling through a hole makes contacts with the alternate holes as the grouping of the signal requires. The receiving apparatus is a very delicate inkwriter, the cores of its electromagnets being made of rolls of sheet iron. *Mechanics' Magazine*.

FERRIE'S SELF-COKING BLAST FURNACE.—The one at the Monkland Iron Works is illustrated in *Engineering* of June 16. It is 83 ft. high, 18 ft. in diameter at the boshes and $22\frac{1}{2}$ ft. at the top. The upper part for 20 ft. below the bell and cone space is divided into 4 compartments by vertical walls, resting on arches and radiating from the center. These walls and the circumferential walls are pierced with flues, into which is received a portion of the gases taken from the top. These gases are here ignited, receiving a supply of air through gratings in the external wall of the furnace. The temperature in the flues ranges from 1500° to 1700° . This effects a coking of the coal in the compartments, a driving off of all moisture in the ore, etc., and the expulsion of the carbonic acid out of the limestone. The materials fall from these compartments into the smelting zone. Very good results are reported. Mr. Ferrie claims a saving of nearly 1 ton coal to 1 ton of iron produced, and a saving of $2\frac{1}{2}$ cwt. ore per ton of iron, at least in certain districts. The furnace runs regularly and produces good iron.

THE BURDEN HORSE SHOE PATENT has been extended. The machine turns out a shoe each second, of an average weight of 1 lb. One machine often uses $10\frac{1}{2}$ tons of bar iron in 12 hours, equal to the work of at least 600 men. The average cost of making a horse shoe by hand is estimated at 16 to 20 cts. (exclusive of material); the average cost of the Burden shoe is $8\frac{1}{2}$ to 5 cts. Since the introduction of the machine, 82,000 tons of iron have been used by it, and the sales have amounted to \$9,000,000,—a saving of \$18,000,000 to the public.—*Ec.*

SLATE FOR ENGRAVING.—The use of slate, instead of box-wood, for engraving is said to have been found both economical and efficient. The blocks are easily cut, will wear as well as electrotypes, furnish over 100,000 impressions without loss of detail, are not affected by oil or water, do not vary with the temperature, and do not warp.

THE SUEZ CANAL is regarded as definitely completed, having a depth of 26 ft. 8 in. throughout. M. de Lesseps is stated to have been negotiating with the Duke of Sutherland for additional capital. The financial results of the enterprise are not favorable.

SCIENTIFIC PROGRESS.

METALS PRECIPITATED FROM SOLUTIONS BY SULPHIDES—GOLD AND SILVER DEPOSITS.—Mr. Daintree had observed that gold, when placed in a solution of its chloride undergoing decomposition by contact with organic matter, acts as a nucleus for the liberated gold. Copper, iron and arsenical pyrites, galena, zincblende, stibnite, wolfram and molybdenite also act thus as nuclei, but brown iron ore and quartz do not. Mr. Wm. Skey, of the New Zealand Geological Survey, has been seeking an explanation of this. His results were given in a paper which has been published by the *Chemical News*. We condense: That gold should act as a nucleus for gold liberated from solution, is similar to the action of numerous other substances. The protoxide of iron in wolfram explains its action, as soluble proto-salts of iron reduce gold salts. The other cases are those of sulphides and arsenides. Experiments show that these have a reducing power on gold chloride. The presence of organic matter is no help, but rather a hindrance. Gold chloride was found to be reduced by contact with proto- and bi-sulphide of iron, ferro-sulphide and sub-sulphide of copper, sulphides of zinc, tin, molybdenum, lead, mercury, silver, antimony, bismuth, arsenic, platinum and gold; also by mispickel ($\text{Fe As}_2 + \text{Fe S}_2$) and arsenide of silver. Cubical iron pyrites is rather slow in its action; antimony sulphide scarcely affects it at first, but rapidly after some hours. All these effects occur at common temperature, except with sulphide of bismuth. There is no reason to suppose that light has been concerned in these reactions.

The mode in which these effects were produced was by the oxidation of the metal and of the sulphur (arsenic) of the nuclei. Silver and platinum also, and possibly most or all of the metals of the platinum series, are found reducible in this way from their solutions in acids by metallic sulphides and arsenides. Thus, silver is reduced from its nitrate and acetate very readily by galena, copper pyrites and the inferior sulphides of iron and copper. From ammoniacal solutions, however, it is not reduced by any of these sulphides, not even when heated with them, except by sub-sulphide of copper. As deposited by galena, wire-silver was formed just as found in nature. Cubic iron pyrites and stibnite has little or no effect on silver salts, even when heated with them; arsenide of silver has a feeble effect. Platinum is reduced slowly from its bi-chloride solution by galena and grey copper ore, and still more slowly by iron pyrites. These were the only sulphides tried. None of the sulphides enumerated appear to reduce metallic mercury from its bi-chloride solution, but most of them reduce it to sub-chloride. Sulphide of gold even thus effects this mercurial salt, the sulphur being oxidized, and the gold set free. Neither sulphate nor acetate of copper are affected by these sulphides. Perchloride of iron is reduced to protochloride by galena and grey copper ore.

Now, when, in place of the chloride used in the above experiments, the oxide of gold was used in solution of either potash, bicarbonate of soda, or an alkaline silicate, the same reduction of the metal followed—at least, this occurred with galena and the inferior sulphides of iron and copper. With the oxide dissolved in ammonia, to produce this result, the solution must be heated to about 200° F. The sulphide of gold, however, dissolved in any of these salts or alkalis, could not be reduced by contact with any of these sulphides, even by boiling or adding strong deoxidizing agents, as tannic or gallic acids. This tends to show that in the case where Mr. Newberry obtained the reduction of gold upon iron pyrites from a solution of its sulphide in bicarbonate of soda mixed with organic matter, the gold had, prior to its reduction, in some way lost its sulphur and taken up oxygen, thus becoming a salt readily reducible by deoxidizing agents. Anyway, it is inconceivable how organic matter and metallic sulphides, alone or together, can desulphurize a good sulphide. Organic matter by its decay would rather generate than decompose sulphides. Gold has far more affinity for sulphur than for oxygen, and therefore a chemical interchange effected by the mere addition of bicarbonate of soda to gold sulphide is hardly supposable. Besides, if it were, the reduction should have proceeded as

well with this kind of solution as with gold oxide in solution of bicarbonate of soda, which I found it did not. Further experiments in this direction are, however, absolutely necessitated by the importance of ascertaining positively whether there is any solution of gold (likely to occur naturally) able to resist the reducing power of either metallic sulphides or decaying organic matter.

MICROSCOPIC CHARACTER OF IRON AND STEEL.—According to Mr. Schott, the different qualities of iron and steel can readily be distinguished by means of the microscope. Thus, the crystals of iron are double pyramids, in which the proportion of axes to the bases varies with the quality of the iron. The smallness of the crystals and the height of the pyramids composing each element, are in proportion to the quality and density of the metal, which are seen also in the fineness of the surface. As the proportion of carbon diminishes in the steel, the pyramids have so much the less height. In pig iron, and the lower qualities of hard steel, the crystals approach more closely the cubic form. Forged iron has its pyramids flattened and reduced to superposed parallel leaves, whose structure constitutes what is called the nerve of the steel. The best quality of steel has all its crystals disposed to parallel lines, each crystal filling the interstices between the angles of those adjoining. These crystals have their axes in the direction of the percussion they undergo in the working. Practically, good steel examined under the microscope has the appearance of large groups of beautiful crystals, similar to points of needles, all parallel and disposed in the same direction.—*Van Nostrand's Magazine*.

WYOMING FOSSILS.—Prof. Marsh has described several new fossil land lizards, discovered in the tertiary deposits of Wyoming. Some of these are as large as any now living in tropical America, but all are quite distinct from any hitherto found. They represent a new genus, called *Glyptosaurus*, because the head and parts of the body are covered with highly ornamented bony plates. Four species are described, readily distinguished by the form and ornamentation of the shields on the head. The largest, *G. sylvestris*, was about 4 feet long; the smallest, *G. anceps*, about 2 feet; the others are called *G. nodosus* and *G. ocellatus*. They will be fully described in the *Amer. Jour. of Science*.

EXTRAORDINARY RAILROAD IRON.—The *Montreal Gazette* states that the Canada Grand Trunk Railway has received from England samples of steel for rails and axles which will challenge comparison with any material ever made for these purposes. "A rail was twisted cold 13 times before fracturing, in the shape of a spiral spring; and the fracture indicated that the metal still retained its hardness, toughness and malleability. An axle was bent cold in a testing machine, with a pressure of 2 tons at 3 ft. 6 in. bearings, into a complete knot without any fracture whatever." Other remarkable samples are also reported.

AQUEOUS SOLVENT FOR SULPHUR.—Various experiments have been made for the purpose of finding an aqueous solvent for sulphur, a great desideratum in facilitating the use of this substance in medicine. Dr. Pole announces that if flowers of sulphur, previously well washed and dried at 212° F., are mixed with an aqueous solution of pure carbonate of soda and the whole digested at 212° for 10 hours, considerable sulphur will be taken up. Linseed-oil is another solvent for sulphur, the amount increasing with the temperature.—*Harper's for August*.

STRUCTURE OF MOSASAURUS.—The cretaceous fossils of the Rocky Mts., discovered by Prof. Marsh (*Amer. Journal of Science* for June), prove conclusively that the mosasauroid reptiles had a well developed pelvic arch and posterior limbs, a fact hitherto considered very doubtful. Some of the species were more attenuated than any before described. One, *Clidastes Wymani*, was about 30 feet long, and had the terminal caudal vertebra less than 1-12th inch in transverse diameter.

KNOT-TYING MACHINE.—P. A. Perry, of Perth Amboy, N. J., has patented a device which is said to tie a square knot precisely like that made by hand. The nearest approach previously to tying by machinery has consisted in twisting the ends of the string or wire together and tacking them under the band.

CORRESPONDENCE.

A Trip to Colorado.—No. 3.

BY OUR OWN TRAVELER.

Golden City.

Leaving Denver on the Colorado Central R. R., we have a beautiful ride to Golden City, situated on the Vasquez Fork of the South Platte. This place has an exceedingly pretty site, and the natural resources of coal, fire-clay, building stone, iron ore, copper, etc., together with a good water-power, seem to indicate that the city must assume a very important position as a manufacturing center.

Already it has a large number of factories of various kinds, flour mills, paper mill, saw mills, tannery, brick works, etc., etc. It has also churches, a college, free schools, the Territorial School of Mines, etc.

The Golden City Mineral and Land Company has a capital of \$500,000, and owns much valuable property in the shape of coal and iron beds, deposits of "glass silica," etc. It manufactures fire-brick, tiles, drain pipes, etc. It has leased its coal lands to the Hazelton Coal M. Co., of which I shall have more to say. The efficient agent of the M. and L. Co. is Mr. M. C. Kirby.

Manufactures.

One of the first places I visited was Bell's Fire Brick Works. These have been leased by Weibel & Co., and have a capacity of some 6,000 fire bricks weekly of excellent quality. Their bricks are used at Hill's smelting works at Black Hawk, and elsewhere. They furnish these at Golden City at the rate of \$100 per thousand. They also manufacture crockery.

The Golden City Paper Mill is a credit to the place and is ably managed by the superintendent, Mr. R. C. Wells. This mill supplies the daily and weekly papers of the Territory with a very good article of printing paper, and turns out also manilla and wrapping paper. Its full capacity is one ton in 24 hours, but at present it manufactures only about 10 hundredweight daily. It is run by water-power, employs 9 hands, and has a 36-inch cylinder machine.

The Rock Flouring Mill is owned by Mr. O. F. Barber, has three run of stones, is run by water-power, and has, I believe, an excellent reputation. I noticed two other flour mills here which were not running, however, at the time of my visit.

Large smelting works are to be erected here, I am told, within a short time.

Schools—Papers—Hotels.

Jarvis Hall is a prominent institution here. It is intended to give a thorough course of studies, fitting boys for business and professional pursuits. The name is given in honor of Mr. Geo. Jarvis, of Brooklyn, N. Y., who donated the money for erecting the building. It is located very pleasantly about a mile out of the city on rising ground, and is a fine edifice. The Rt. Rev. Geo. M. Randall is rector. To Mr. Geo. W. Davies, the Vice-Principal, and to Mr. E. L. Berthoud, instructor in Civil Engineering, Botany and Geology, both gentlemen of fine attainments, I am indebted for several acts of kindness and valuable facts concerning the locality.

I visited the School of Mines, for which the Territory has given \$3,280, and much more has been raised by subscription. The building, at present unfinished, is of brick, three stories high, with a bell tower 80 feet in height, and has already cost nearly \$5,000. In this institution, Colorado has set an example which others of our Pacific States and Territories would do well to follow.

The *Weekly Transcript*, edited and published by Mr. Geo. West, looks carefully after the interests of the place. The *Jarvis Hall Record and Church Monthly* is an excellent publication, well edited by Messrs. G. W. Davies and C. H. Marshall.

The largest and most commodious hotel here, with good bath rooms and other conveniences, is the Golden House, C. S. Abbott, proprietor. There are other hotels here, as the Overland and the Astor.

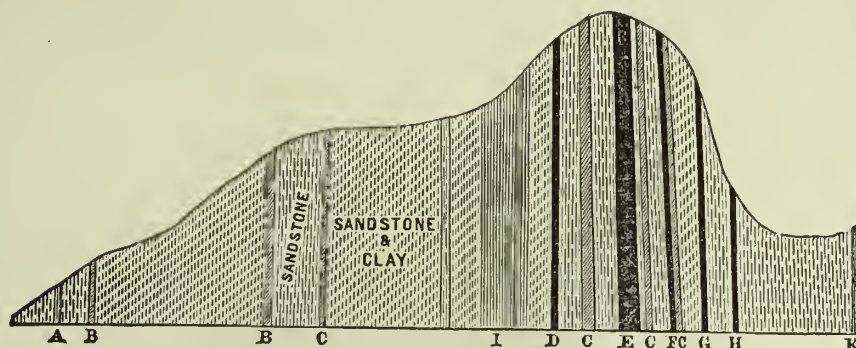
Coal Beds.

The Hazelton Coal M. Co. has leased the coal veins in this district for a space of 20 years, and has been working for some time under the superintendence of Mr. E. B. Maltby. They have a shaft down 160 feet

on the vein and are now drifting to the west, working three shifts. The vein they are on averages 8 feet in width. They are now erecting large hoisting works. They have contracted to supply the smelting works with 100 tons daily, furnish the railroad with fuel, and produce a coal which is used by blacksmiths, containing but little sulphur. The company has a capital of half a million, and is developing the coal treasures of the Territory. It controls over 4,000 acres of coal land at Cañon City. It was originally formed in Kansas.

Coal was discovered here some 11 years ago. The formation is cretaceous, and the strata have been tilted up, having a dip of about 80° to the west. In order to give your readers a better idea of the veins, I send you a section of the mining locality, whence are obtained all the supplies for manufacturing, as coal, fire clay, potter's clay, building stone, iron ore and glass sand. For the original drawing I am indebted to Mr. E. L. Berthoud. The drawing is on a horizontal scale of 100 feet, and a vertical scale of 20 feet, to the inch. [Reduced in the engraving to a scale of 270 and 54 feet, respectively, to the inch. Ed.] The following is the explanation of the letters in the drawing:

A is a bed of iron conglomerate; B, layers of potter's clay; C, fire clay; I, bog



SECTION THROUGH CRETACEOUS COAL BEDS AT GOLDEN CITY, COLORADO.

ore; K, glass sand; D, coal vein 5 feet thick; E, coal vein 9 to 12 feet thick; F, coal vein 3 feet thick; G, coal vein 2 1/2 feet thick; H, coal vein 2 feet thick. Between these strata mentioned occur sandstone and clay or sandstone as denoted by the shading.

Colorado Central R. R.—Proposed Extension.

The Colorado Central is built as far as this place, and two trains are run daily to and from Denver. The road passes through a good country for farming and stock raising. It is under good management. Mr. J. B. Shepherd is superintendent.

The Colorado Central R. R. Co. was organized to build a road from the eastern to the western boundary of the Territory, and was granted a charter in 1865. The road is in running order from its junction with the Kansas Pacific and the Denver Pacific, 3 miles north of Denver, to Golden, 15 miles, and is under construction and location to Central City, 22 miles further.

It is proposed to prolong the line ultimately, via Clear Creek Valley, to Georgetown (the center of the silver mines of Colorado), and over the main Rocky Mountain range, 12 miles N. W. of that town, into Middle Park, near the Hot Springs, thence via Gove's Pass northwesterly to the head of either the White or the Yampa river. Thence, by one of these valleys, to Green river, near the mouth of the Uintah river, up the Uintah to Duchesne River, up Duchesne Fork to Strawberry Valley which it ascends to the summit of the Wahsatch mountains. It will then follow down Daniel's Creek, and Timpanogas river to Provo City, to meet the Cal. Central Pacific, if extended eastward, or else to join the Utah Central at Salt Lake City.

Farming in the Mountains.

Benefits of Deep Plowing and Summer Fallowing.

EDS. PRESS:—Another hot and dry summer is full upon us. Complaints through the papers have, from time to time, reached us, of the short crops of the valleys and plains, causing the destruction of stock and great loss to farmers. Although, like most mortals, we have many ills to complain of, yet we here in the foothills have this year, an abundance of hay and grain (where it has been sown for the seed), fruit and vegetables. Knowing the PRESS takes a great interest in the mode and man-

ner of preparing the land and cultivating crops, I will give you a few such items which have come under my observation. On the north side of the county, along what is known as the Georgetown Ridge, there is some most excellent farming land, as well as quartz and placer mines.

"A Mountain Farm."

High up among the mammoth sugar pines and spruce trees, some twenty years ago, E. C. Day, from the old Granite State, concluded to settle, and make for himself and family a home. Who but a live Yankee or a German would have conceived such an idea at that time? Day knew his business, felled trees, and cleared land, planted fruit trees and vines, and now has one of the loveliest homes in the mountains. Five or six years ago Day and sons purchased a piece of land which had been cropped for some ten years, and was considered worn out and valueless. They summer-fallowed it two years ago, and sowed wheat. The yield was most excellent, producing from 35 to 40 bushels per acre.

Success having followed their first experiment at summer fallowing they concluded to continue that mode of cultivation, and last year they had 75 acres ready for seeding in September, and as a reward

more than 25,000 barrels per year being manufactured at Cave valley, most of which is carted to Auburn, and shipped per rail to Sacramento and other localities. Excellent placer, gravel and hill or hydraulic mines are also found here; water only being required to work and develop them.

In Greenwood, Georgetown and Kelsey townships are located some of the best quartz mines in the State. Many of these have paid from the commencement, while others would have done likewise, had they been properly managed. Artificial means for conveying water from the mountain streams to the lower hills and valleys along this fertile ridge has been much needed. The miners and agriculturists have in part been supplied from the Pilot Creek Canal.

A new day is about to dawn upon them. A company of capitalists in San Francisco have purchased certain surveys and water rights, and now have their engineer surveying for a large canal to take up the water of unclaimed streams and lakes. Already they have filed their location and claims in the County Clerk's office. They claim many lakes, among which is Loon lake, near the summit of the Sierra, on the trail leading from Georgetown to Sugar Pine Point, on Lake Tahoe. A dam will be thrown across the outlet of Loon lake so as to raise the water of this lake some twenty five feet, and cover a surface of from six to eight square miles, to an average depth of fifteen feet. This, with other lakes, will serve for catchment basins, and be let into the canal in summer when the other feeders have failed in Georgetown and vicinity.

E. N. S.

Placerville, July 15th, 1871.

Notes from Oregon.

EDS. PRESS:—The country from Portland to Hillsboro is rough timber land, and the road of "corduroy." At this place you are in the county seat of Washington—eighteen miles from Portland—a town containing some 300 inhabitants, who are patiently waiting to be buried, unless Ben Holladay sees fit to bring them in line of his West Side R. R. The country as you bear south, opens out into very pretty farm land, diversified with small growth of oak, and fir timber. Some eight miles further brings us to Forest Grove, a sweet little place, high and airy, where the fruit and the forest trees blend together to sing the songs of a village, where no saloon poisons the atmosphere (an exception as far as I know upon the Pacific coast). The town sustains one of the best public schools in the State.

Some dozen miles more and we halt at North Yamhill, a place of some 100 inhabitants, with mechanic shops, stores, etc., in the midst of a fine farming country. We then drive some 12 miles to Lafayette, the county seat of Yamhill, a dilapidated, moss-grown looking place as you approach it. It is located near the Yamhill river, which is navigable during the winter. This place contains some 400 inhabitants—waiting to see where the railroad will run.

The next place we visit is McMinville, some five miles further southwest, also upon the Yamhill, which meets its shipping wants in high water. It contains some 500 inhabitants, several mechanic shops, a fine planing mill, stores, West Side newspaper, and a good public school, with a fine country around it. They don't incline to "wait for the [railroad] wagon."

The fall-sowed wheat looks remarkably well, but the spring-sowed will not make half as much as that sowed in the fall. Oats and hay will also be short in consequence of drouth and the "scratching" plan of farming.

The orchards look pitiful—untrimmed uncultivated, worm-eaten, dead limbs, and bodies covered with moss is the universal condition. The reasons offered are that they bear themselves to death soon, if cultivated. If that is true, they are much in the same condition as those persons were who were charged with witchcraft at Salem. The result will be a rapid increase in the value of apples in this State soon.

The price of farm lands seems to range from \$12 to \$30 per acre, quite plenty of living water, and general good health prevails.

When the farmers in the Willamette Valley generally get to taking the RURAL PRESS, they will undoubtedly learn to change many of their present modes of farm practice.

E. P. H.

Limestone Mines, etc.
On this ridge is lime rock in abundance,

HOME AND FARM.

Santa Cruz Farmers' Club.

Club met July 15th, '71. President Mattison in the chair. Secretary read extracts from the *Practical Farmer*—one giving a novel feature in Farmers' Clubs. They meet in succession at the houses of members—view whatever is of interest on each farm, counsel and advise, praise or censure, as each case in their opinion may deserve.

If fences are poor, gates off hinges, stock badly sheltered, manure going to waste, etc., etc., the delinquent will find a note made of it by the faithful Secretary. Other extracts were read tending to prove that there is more profit in a winter than a summer dairy.

Mr. Cahoon.—How will goats do in a brushy pasture? Will they clean off the brush?

Mr. Humphrey.—Mr. Parish, of Soquel, kept goats in such a pasture, and they cleaned it all off.

THISTLES.—Mr. Savin.—Seven years ago there were scarcely any thistles here. Now they are quite plenty, and unless something is done to prevent their further spreading, they will become a terrible pest.

SEEDING PASTURES.—Mr. Locke.—It is well known that very nearly all our pasture grasses must grow from the seed each spring; hence it follows that if seed is short—from over stocking, drouth or any other cause—pasturage is also short. Stock are always seeking the varieties most inviting, and thus preventing them from seeding; while those rejected—many of them noxious weeds—scatter their profusion of seed broadcast over the whole land. Thus it has happened that pastures, once valuable, are now nearly worthless, and this from no lack of fertility in the soil; but simply lack of seed. Now would it not be good policy for every owner of such pasture to sow (about the time of first rains) some kind of seed—perhaps a variety, as wild oats, burr-clover, rye-grass, etc., thus supplying the only thing needed to restore such lands to their former value.

Mr. Savin.—The best seed to sow is tame wild oats.

Mr. Daken.—Tame and wild oats grown together produce what we call "tame wild oats" on the same principle, I suppose, as different varieties of the same species of many other crops mix; and this hybrid I regard as better than either of the original. In many of our pastures wire grass is the main seeding element.

Mr. Mattison.—Buy bur-clover hay, feed liberally to your stock, and they will seed the pastures.

Mr. Humphrey.—Divide your pastures, and take care that the different lots have a chance to seed themselves.

The growth after once mowing, or close feeding, will generally produce an abundance of seed. Bur-clover and filaree will generally seed themselves, however closely fed.

Mr. Locke.—That kind of seeding is objectionable, as you got more seed from vile weeds than anything else.

Mr. Mattison.—I notice that the dandelion, among many other weeds, is rapidly spreading on our farms.

A Member.—While the thistle spurs us on, and the mustard makes us shed tears—the turnip, wherever we turn-up the soil, is always ready with the radish—it would be some satisfaction were it not for the tar-weeds and stickers, to reflect that the bur-clover always sticks to us.

Mr. Cahoon.—I know that where wild oats used to grow abundantly, there are now none; and where are we to get these seeds to sow?

Mr. Locke.—Raise them, as the farmers East raise their own timothy and clover seeds.

The Secretary was ordered to purchase for the Library the books selected at the last meeting.

Adjourned.

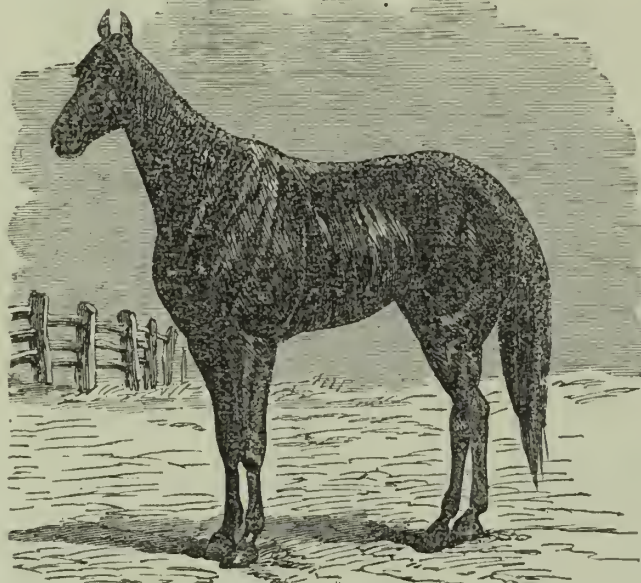
D. M. L.

IRRIGATION IN CAPAY VALLEY.—The Yolo Democrat says: Several prominent citizens of the county have commenced the project of an irrigating canal for Capay Valley, the preliminary survey for which has already been completed. From the head to the lower end of the Valley there is a fall of some 200 feet. The intention is to make a canal some 20 feet wide and 2½ feet deep, which will convey water enough to abundantly irrigate the whole of Capay Valley. The estimated cost is \$50,000, the principal outlay being for timber. The canal is to be finished this fall.

Celebrated Trotters.—No. 4.

Lady Thorne.

In continuing our notices of celebrated trotting horses, we come, to-day, to Lady Thorne, who, according to a writer in *Moore's Rural*,—to which journal we are indebted for our illustrations,—was a large and powerful bay mare, very high-bred, and very game and resolute. She was got by Mambrino Chief, a horse bought in this State for the late James B. Clay of Kentucky, and was out of a mare by Gano, a son of American Eclipse. Thus she has two crosses of the blood of imported Messenger, and the cross through Eclipse must be esteemed of uncommon value, for he was not only a wonderful race-horse himself, but his dam, Miller's Damsel by Messenger, was out of the imported mare by Pot-8-os, son of English Eclipse, when young Lady Thorne was called Ashland Maid. She was always noted for speed and bottom, but she often ran away, and those who first handled her in Kentucky were afraid of her. By care, patience and perseverance Dr. Herr of Lexington, Ky., got her to be more calm and quiet, and made her a fine trotter. Of the public



LADY THORNE.

horses of the day she was second only to Dexter. She trotted a mile to wagon in 2m. 24s., and a mile in harness in 2m. 18¼s. She once beat Dexter, but it was in his green and salad days; and some years afterwards when they trotted a series of races together it plainly appeared that she could not live with him. A lamentable accident recently disabled her, temporarily only it is to be hoped.

HOW TO UTILIZE OUR SQUIRREL SKINS.—The *Alta*, which first, through a Contra Costa correspondent, gave currency to the report that a Frenchman was paying fifteen cents each for squirrel skins to ship to Paris, to be there manufactured into gloves, suggests that these skins should be converted into gloves here. Some very good kid gloves are made in this State now, and we see no reason why all we need may not be made here. This would be a very proper matter to come before our Industrial Fair Associations, for special premiums, and other encouragement. These associations give many thousands of dollars every year for things in which we know there will be no improvement, while those branches in which improvement is needed are too apt to be neglected.

DRESSING BUCKSKIN.—A correspondent, "F. B. C.," of San Diego, desires to ascertain, through some reader of the *RURAL*, the most efficient mode of dressing and tanning buckskins. Is there not some chemical which may be applied so as to facilitate the removal of the grain, and thus lessen the dependence placed upon "Elbow Grease?"

Musquit Grass.

Hon. J. M. Hudspeth, of Green Valley, Sonoma county, was the first to put this seed in the California market. By some it is still regarded as an experiment. If it meets the expectations of Mr. H., and some other sanguine experimentors, it will be a grand acquisition to the stock of grasses on this coast. To fully appreciate its value, it will be necessary to call on Mr. H., as I did, and see the grass growing on all conditions of soil.

Many people think that no vegetation can grow in California without irrigation, or a strong root that goes down to living water. But this is a mistake. We saw acres of musquit growing on light adobe land, and on gravelly hill sides and bottom land, hard and dry as a brick. A patch of this grass, is standing two or three feet high in the bottom of a creek, and on an old hard trodden road near by. It adapts itself to circumstances, where all other grasses fail, and will produce a crop on poor soil three times the weight of natural grass, and on richer, moist soils in relatively increased proportion. It is the opinion of many in this quarter that the musquit will run out all other grasses, weeds and even sorrel, in a few years.

Cranberries on Upland.

There has been considerable enquiry of late with regard to the cultivation of cranberries on upland, and the following experiment in this direction will be read with interest by all cranberry cultivators:

Three or four years ago I transplanted cranberry vines from my meadow to one of my gardens, which is pine plain land. They have grown well, and they are now loaded with fruit. I had compromised with them; that if they would come and live with me on my land, I would bring them their native soil, so that they would not suffer by emigration. I dug channels two feet wide, twenty inches deep, and three feet apart. I removed the gravel, and filled the channels with muck from whence they were to be taken. I took up the cranberry plants in small clusters, and set them deep in their natural element. They appeared to be perfectly contented with their new locality. They now occupy one square rod of ground, and they are beginning to enlarge their borders. I keep this patch clear of weeds. The expense of this cranberry square rod was about two days' labor of one man, and one day's labor of one horse. The prospect now is that the cranberries will yearly pay expenses of their new settlement. Muck and experiments well directed will prove successful. *Journal of Agriculture.*

Cranberry Culture.

The Annual Report of the Middlesex Mass. Agricultural Society for 1855 contains a very interesting account of some experiments in Cranberry Culture, made by Mr. Addison Flint of North Reading. The paper was prepared by Mr. Flint himself, the details of his practical experience will be found of special value to new beginners in the business, as his mode of culture embraces the planting of the seeds, the transplanting of the vines, and the cultivation of the wild plants spontaneously growing in his swamp.

He first erected a dam across his grounds, by which he raised a pond, and left in that state for three years. In August, 1840, he let off the water, and the October following burned over the swamp preparatory to its cultivation. After letting off the water he found a few native vines, and these he let remain as they stood. He planted about half an acre of the swamp in October, the same fall, with the seed, or rather the cranberries, crushing each berry as he planted it, and placing it just under the mud, one in a hill, three feet and a half apart. The following spring he sowed several bushels broadcast. On the part thus planted and sowed, but few vines appeared first, and it was not till 1853, or six years afterward, that they began to produce fruit. In the remainder of the swamp Mr. F. set plants from a neighboring swamp, cut up with a sharp hoe or shovel, in bunches about the size of a quart measure, placing them in hills, three and a half feet apart. The result was in 1852, he gathered about one hundred bushels, sixty from transplanted vines, and forty from the native plants. In 1855 he gathered fifty barrels, and "the increase was principally from the transplanted vines."

Profits of Market Gardening.

Mr. J. J. H. Gregory delivered three lectures, recently, at Cornell University, on "Market Gardening and Market Farming," in which he gave some common sense ideas about the cost and profit of gardening. The expense of raising an acre of cabbage, including manure, timo, labor, etc., in the vicinity of New York, is \$150; market value of the crop, \$300; gain, \$150. An acre of onions cost \$260; price \$500; gain, \$240. Squashes cost per acre, \$140; price \$180; gain, \$40. "Market farming must be carried on within twenty miles of the city. Ten acres is enough for a farm, five for a gardener. More is gained by cultivating one acre well, than two acres half as well. He must carry his own produce to market in his own wagon. The ground must be fairly stuffed with manure. Two crops must be cropped off; that is unavoidable. It is a business that requires capital, energy and hard work, both early and late. Small gardeners will often make their land pay \$500 to \$1,000 per acre annual income; but the average farmer can hardly hope to get more than \$100 to \$150.

RAIN IN WASHOE.—The *Independent* of July 22d, published at Eureka, in Lander county, Nevada, says that every day for the previous week they had been visited with slight showers of rain, which made it comfortable and cool, laid the dust, and proved a decided improvement upon the excessive heat of the few days previous.

M. B. S.

TWO THOUSAND ACRES OF COTTON.—James Dale Johnston, General Agent and Secretary of the California Cotton Growers and Manufacturers' Association, and of the California Silk Manufacturing Co., has resigned his positions in these companies, to take charge of a 2000-acre cotton plantation, on the extensive farm of Julius Chester, of Bakersfield, Kern county, who has sold to the Cotton Growers' Association 5,000 acres of land for stock in that company. Mr. Johnston, at the request of the Directors, will continue at his present post until November, when his personal presence will be required at the plantation.

CUTTING WHEAT FOR HAY.—The *Placer-villo Republican* says that large fields of wheat that will yield from thirty to forty bushels to the acre are being cut for grain for want of milling advantages! Cutting wheat for hay that will yield thirty or forty bushels to the acre, when wheat is selling in this city at \$2.25 per cental, sounds very strange. Is the *Republican* rightly informed?

AGRICULTURAL NOTES.

CALIFORNIA.

While the cereal crops of the present season have not been so large as the area sown seemed to justify us in expecting, and while in many places grain has been a total failure on unfallowed and shallow plowed lands, other sections have been exceedingly fruitful. The fruit crop is the best ever known. There is no curled leaf in the peach; while plums, pears and figs are coming in bountifully. The vineyards never held out hopes of a richer reward, while small fruits and berries, having escaped all mishaps, gladden and refresh us with their luscious plenty.

Even the partial failure of our great staple will not be without its reward, in the important lessons it will teach us in the way of improved farming—by more thorough tillage, by a more general resort to irrigation, by the introduction of a greater diversity in our farm products, and by the proper reclamation and improvement of the immense area of our tide and tule lands. Due attention to these things will place us comparatively independent of drouths and all other peculiarities of our climate and seasons. We subjoin our usual weekly summary as follows:

THE CHINTZ BUG IN BUTTE CO.—The editor of the *Chico Enterprise* recently visited the farm of Mr. Bay, for the purpose of seeing the chintz bug among the wheat. It was a wonderful sight. Millions upon millions of these bugs were making their way from the wheat fields towards the fences and roads, literally covering the intervening space between the wheat and the fences and along the line of the fences. They are the same kind of chintz bugs which of late years have done so much damage to the wheat crops of Missouri and Illinois.

He also paid a visit to the Henshaw farm. The splendid orchard on the premises never yielded a larger crop. The trees are so laden with fruit that the limbs have hardly strength to support their weight. The crop of grain is among the best grown in the county.

A RAMIE FIELD.—The same paper says of this field, that it presents a lovely appearance. The plants are up eight inches in height, scarcely one planted having failed. They look green and promising, and Nourse says he is now satisfied there is nothing to be feared. No matter how warm or dry the season, they are so hardy that they can resist all influences toward injury, and will, beyond peradventure, live and flourish. He will realize as much from his two acres of ramie as from his fields of grain.

THE HARVEST IN COLUSA.—The *Sun* of July 22d, says:—A. J. Scoggins has been threshing grain at the upper end of the county, and he informs us that many persons up there have better crops than they have had for years before. Some fields he has thrashed have averaged forty bushels to the acre. He estimates that the Walsh ranch alone will produce this year nearly 100,000 bushels. The county will harvest between three and four hundred thousand bushels. Besides this, in most of the fields called failures, there was enough for seed, and many farmers are now harvesting in their fields for another crop. So the county will have a considerable surplus.

SOLANO.—Henry G. Whetmore has the "banner crop" of Solano county this year. On his ranch near Wooden Valley, he has raised forty-five and three-quarter bushels of wheat to the acre.

THE NAPA WHEAT CROPS.—The new wheat crop, says the *Napa Register* of June 22, is beginning to arrive freely. Every train from up valley brings several car loads, which is safely stored in our huge store-houses. The quality of the new crop was never better, while in quantity the yield is nearly equal to the average for several years past. We have heard of but few sales of the new crop. Farmers manifest a disposition to hold on for an advance.

CROPS IN SONOMA.—The *Petaluma Journal* of July 22d, says: Many of our farmers in this county are at present busy threshing their grain. Several steam and horse-power machines are kept busy, and it will take two months and over to do the threshing of the county. The yield of

cereal in this section of the State this year is large, and the grain appears to be of the best quality. The farmers of Sonoma may well say that their lines have fallen in pleasant places. Their granaries will be overflowing, and their purses heavy.

THE NEVADA FRUIT CROP.—We believe, says the *Grass Valley Union*, that within the township of Grass Valley there is fruit enough to supply half the State of California. All know that the mountain fruit is much better than that of the valley. What is to become of this superabundant crop of most excellent fruit? Most of it will rot and will do no good except to enrich the ground. The home market amounts to but very little, and transportation is so high that foreign markets can not be reached. We have heard of some few cases of enterprise in the way of putting fruit in cans for future use. In that shape transportation becomes practicable in a paying sense. Yet these enterprises in putting up fruit are not numerous enough. With all the abundance around us and with the cheapness of tinware which now exists the grocery and provision stores of this part of the country will, next winter, be filled as to shelves with eastern fruit. Such shiftlessness and wastefulness should be avoided.

WHEAT, FRUIT, ETC., IN EL DORADO.—The *Placerville Republican* says the grain east of that city for a distance of ten or fifteen miles is very fine. Large fields of the best kind of wheat are being cut for hay, just for the want of milling advantages. Mr. George Myers, at the Five-Mile House, says he has a field of wheat that he is confident would yield thirty to forty bushels to the acre. Orchards and vineyards in the vicinity of Smith's Flat look remarkably well and promise a large yield. The ranch of Wm. Crosby looks fine; trees of all kinds are loaded with fruit. Apricots are now very plentiful, raised thereabouts, and are very fine. Pears are also making their appearance.

OVERLOADED VINES.—The *Folsom Telegraph* is informed that some of the vineyard men in El Dorado say that many of the grape vines are too heavily loaded this season. Brighton township claims the first ripe grapes in the country this season; R. S. Locket having fine grapes of the White Cluster variety now ripe in his vineyard.

SPLENDID WHEAT.—The same paper says that Alfred Hill, near Saulsbury Station, has a splendid wheat crop; one hundred and forty acres, it is believed, will average forty bushels to the acre.

SHERMAN ISLAND CROPS.—The *Antioch Ledger* of July 22d says: We made a flying visit to Sherman Island this week, and found everything in a highly flourishing condition. Going from the ranch of the Boggs Bros. on this side to Emmaton, we found a good road, and on either side, ripe waving grain as far as the eye could reach. Emmaton is a thriving little village, with a good hotel, kept by Mr. Upton, a large store, blacksmith shop, etc., with several new dwellings in process of erection. A substantial wharf has been built and the Sacramento steamers stop daily. The greatest present improvement is the building of a good wagon road around the Island, following the levee. Work has already been commenced, and in a few months one can have the pleasure of driving on a perfectly level road along the banks of the Sacramento on one side, and the San Joaquin on the other, around the largest and most productive Island in the State. The richness of the soil causes the grain at present to grow too rank, but with continued culture this will be obviated. For vegetables and fruit, Sherman Island challenges comparison with the world. A little labor and experience in setting out fruit trees now, will, in ten years make this the garden spot of California.

ONIONS IN EL DORADO.—The *Placerville Democrat* of July 22d has the following: We were shown by H. D. Dingman, of the Spring Garden Ranch, three miles east of Placerville, in this county, three onions produced from the seed, this season, the aggregate weight of which was seven pounds, or two and a third pounds each—they had been several days out of ground. On the same spot of ground, Mr. D. informs us he produced three years ago, to three-fourths of an acre, eight tons of onions. He also cut from his ranch this season, two and a half tons of alfalfa and grain to the acre. Eight years ago, from one kernel of rye, was produced 133 heads—as many as fifty kernels producing sixty heads each. How's that for lofty?

THE OPIUM CROP.—We have several times noticed the opium crop of Mr. Appleby, at San José. A correspondent of the *Alta* of Monday, says of this crop,

that Mr. A. sowed the same, about a quarter of an acre in extent, in February, and has not irrigated, although the rains were not sufficient to develop the crop fully. The Chinamen pronounced the growth and yield good. Mr. Appleby is now in correspondence with parties at San Francisco, who are desirous of gaining particulars of the kinds of seed used, etc., with reference to the introduction of the culture upon a large scale, for the purpose of manufacturing opium.

TOBACCO PLANT.—In the garden of the Jesuit Pastorate, at San José, is a magnificent tobacco plant, brought there by a priest, from the Island of Corsica.

MONTEREY CROP REPORTS.—This week, says the *Castroville Argus* of the 23d inst., the following crop reports have been furnished: On the Castro Grant, A. Ranie's crop of some fifty acres, part barley and part wheat, about 22 bushels to the acre. Fretis' crop of forty acres, wheat and barley, averaged between 28 and 29 bushels per acre. A great deal of grain on this grant is cut but not thrashed yet. On the Cooper ranch, Gallier's barley crop of over fifty acres, went over 60 bushels to the acre, a few acres going over 90 bushels. B. O. Walker's crop of barley, close by Gallier's, we heard yielded over 70 bushels per acre, to the owner's great and very agreeable surprise. A mustard crop, put in by Brawley & Forbes, is turning out poorly, being badly effected by the drouth. There are other mustard crops on the same ranch that promise well so far.

THE WHEAT CROP IN SANTA BARBARA.—The wheat crop in this county, says the *Guardian*, is very nearly all gathered in. Threshing machines are busy at work in all parts of the valley, and we are told by those who are well informed in the matter, that the crop will turn out far exceeding what was anticipated it would two or three months ago.

ORANGES IN TULARE.—We have often wondered, says the *Visalia Delta* of July 13th, why more orange trees have not been planted in this portion of the State, where they seem to flourish in perfection. A live orange from the tree is worth a bushel of the rapid yellow things sold in the markets of our cities after transportation from the tropics. We have a little orange tree in our front yard, the trunk of which is not larger than a man's wrist, which has upon it some sixty half-grown oranges, which seem to be filling out nearly as fast as apples. This tree has had but a poor show, standing on the north side of the house, and much shaded by larger trees. It was originally set there as an ornamental shrub, and has become the most interesting tree on the premises.

IRRIGATION IN LOS ANGELES.—Many of our farmers, says the *Los Angeles Star*, assert that next winter they intend, rain or no rain, to irrigate land intended for cultivation, believing that land well soaked during the winter will retain sufficient moisture to make crops without irrigation during the summer months.

NEVADA.

HAY IN THE VALLEY OF THE HUMBOLDT. Nevada, is very scarce and high this summer. In the neighborhood of Winnemucca it is now selling at \$40, with a fair prospect of going up to \$50. The amount of old stock on hand is quite small; while this year's growth will be less than half the usual average. J. B. Fairbanks who owns a ranch ten miles east of Winnemucca, who has heretofore generally cut 200 tons, will not cut any the present season. The mountain ranches, however, there as in this State, will yield about their average crops.

GRAIN AND GRASS.—It is stated that throughout the region of country extending from Belmont, Nye county, to the Humboldt river, in Elko county, the growing grain is healthy but not very abundant—perhaps not an average.

The grass also, is not so abundant as in former years, although the yield will be fair, and perhaps of finer quality than heretofore.

CRICKETS.—The *Eureka Sentinel* says: There appears to be two droves or herds, of the large black cricket, crossing the State, one via South Fork river, the other via old Fort Ruby and Diamond Springs. These "bugs," though numerous, are not out in sufficient force to materially injure the crops. Perhaps they are crickets and perhaps not. They seem to be a compromise between a seven year old locust and a grass hopper, having no wings, chirruping like a cricket, not spitting like a grass-hopper, though having the gait of both. They are perhaps the bald-headed locust, so highly commended in the Jewish Leviticus, as a clean article of diet. Try them.

OREGON.

CROPS OF THE DALLES.—The *Mountaineer* regrets to learn that in many parts of that county the crops are likely to prove a failure. In some localities the sand has been so hot as to burn the grain hard and dry.

IN GRANT COUNTY, the prospects are good for an abundant harvest.

JACKSONVILLE.—The *Times* says the crops in that county never looked better than now. A severe hail storm had done much damage. The storm was one of unprecedented fury. Hailstones are said to have been picked up which measured nine inches in circumference, and which penetrated the ground four inches!

POLK AND YAMHILL.—The latest sown grain in the foothills of these counties received much injury from the hot weather of the early part of July; but the early sown grain in the valley proper has not been thus affected.

WASHINGTON.

HARVESTING.—The *Walla Walla Union* of July 15th says the farmers in that vicinity were then very busily engaged in reaping their grain. The editor is informed by a gentleman who is running a reaper, that the fall, winter and early spring grain is generally very good, but that some of the late spring sowing has been considerably damaged by the late spell of hot weather; yet the portion that is damaged is small compared with that which is uninjured. Taking into consideration the great amount sown, the grain crop, and especially wheat, will be very heavy. All that is now needed for the prosperity of the farmer, is a railroad upon which to send their grain to market.

THE WHEAT MARKET ON THE TOUCHET.—The same paper alluding to the report that there is no market for wheat on the Touchet, says it is because there is no wheat there—a very good reason.

There were parties at Walla Walla on the 15th inst, from Portland, for the purpose of engaging 100,000 bushels for that market. Sixty cents per bushel was offered for the new crop. This looks like a small price for wheat, but it will be remembered that at this time of year, as a general thing, the market opens at not more than fifty cents. With sixty cents as a "starter," the prospects of a rise of fifteen or twenty cents by fall are good.

ATLANTIC.

THE WHEAT CROP.—The July report of the Agricultural Bureau, at Washington says the condition of winter wheat on the 1st of July was rather above the average; but the spring variety was presented a very unpromising appearance. The winter wheat was a full week earlier than usual and the harvest had already commenced at that date.

The prevalence of insects and local drouths have been the principal drawbacks. The chinch bug has been very destructive. Notwithstanding the increased acreage, the general average will fall somewhat, though not largely, below the average yield.

It may be here remarked that there is a large fluctuation in our annual wheat crops, amounting to many millions of bushels. The largest crop recorded was that of 1869—variously estimated at from 220,000,000 to 225,000,000 of bushels.

The corn crop shows a decided increase, nearly all of which, however, comes from the cotton States, which are this year supplying themselves with corn. Iowa, alone, will raise 100,000,000 bushels.

The hay crop will be comparatively a small one.

The potato crop promises a full average yield, notwithstanding the prevalence of the "bug."

WOOL.—The *Michigan Farmer* thinks the supply of wool, this season, will be short, and that prices will continue to rule high.

BUCKWHEAT.—Of the 17,000,000 bushels of buckwheat raised in the United States, 12,000,000 are produced in New York and Pennsylvania.

GREAT BRITAIN.—Late telegraphic advices report that the crop prospects in Great Britain have improved under the recent favorable weather, and the English markets have felt the influence of the change; the depression being reflected on this side, also, by a weakening in the grain market.

KINDNESS TO CATTLE.—The celebrated Miss Burdett Coutts recently made an excellent speech from a London platform, while giving away the prizes to drovers who had been remarkable for kindness to cattle.

POMOLOGICAL.

The Coloring of Fruit.

The coloring of fruit is due mainly to sunlight—modified of course, by the character of the leaf in which the juices are elaborated. Whatever the characteristic color of any particular fruit may be that is sought for which presents a fine, rich shade. We have already stated in these columns that it is usually on the outside limbs that the richest color and choicest fruit is found—a fact due to allowing the branches to grow too close within the body of the tree; hence a tree should be so trimmed that the direct rays of the sun may find their way, during the middle hours of the day, at least, into the center of the branches. Care, however, should be taken, especially in the dry atmosphere of this climate that the fruit is not exposed to such an excess of heat and light, as to urge the evaporation so rapidly that the secretive principle cannot be kept fully supplied with the needed moisture. In such a case the same result will ensue which follows too great an absence of sunlight—a pale, sickly color to the apple, instead of the rich blush or golden yellow, which is always regarded as the criterion in judging of the excellence of fruit by sight. There is a certain degree of moisture as well as sunlight required in the atmosphere for the proper ripening of fruit, and the happy medium can be very well secured by regulating the shade by a judicious use of the pruning knife.

SALT FOR PEAR BLIGHT.—The nurserymen in Geneva, N. Y., are using salt freely in their pear orchards. From two to four hundred pounds per acre are put upon the land yearly. It seems to have a good effect in preserving the vigor of the trees. It is said that a marked difference is found between those orchards where it is used, and those which have not used it.

SELLING FRUIT BY WEIGHT.—The *Western Pomologist* comments favorably upon the California practice of selling fruit by weight, instead of by measure, and recommends its adoption everywhere. By measure great injustice is often done to retail purchasers, as it is no difficult matter for the retailer to make nearly three pints of strawberries, raspberries, etc., from one legitimate quart. The same is true with regard to larger fruit, and with vegetables and grain.

Effects of Sulphur on Wine.

In a late issue we gave Prof. Weidenman's opinion of what became of the sulphur used upon the grapevine—that it was converted into sulphate of lime (gypsum) by uniting with the lime in the soil, and thus continued its beneficial action as a manurial agent. But it appears from De la Vergne's "Practical Instructions" in the manufacture of wine, that *all* the sulphur does not find its way to the soil. That author says:—

A bad flavor is sometimes communicated to wine from the remains of sulphur on the grapes, and serious objections to the use of the remedy were at one time raised on this account. This taste it has, however, been found easy to get rid of by drawing off. If one operation does not suffice, a second in the manner described below will be sure to succeed.

Rinse carefully your empty cask, first with cold and then with warm water, then again with cold, for every forty gallons it will hold, pour in a quart of clean water, and leave it there. Burn within the cask, for every forty gallons it will hold, one square inch of rag or wick incased with sulphur by being dipped in it while melted; close the bung tightly, and roll and shake the cask to let the water within it absorb well the vapors of sulphurous acid produced by the burning. Into the cask thus prepared, draw your wine, doing this by means of buckets, and not by any of the modes contrived to exclude the air, since

contact with it helps to disinfect the wine. But be careful to leave all lees behind; therefore do not tip the cask. The thicker wine remaining with the lees must be settled by putting it in a smaller vessel, and then drawing off by itself in the same way as the other. Any portion of the lees carried into the fresh cask under the influence of a slight subsequent fermentation will again form sulphureted hydrogen, which constitutes the bad taste in question.

To the above the editor of the *Western Pomologist* adds as follows:—

This sulphureted hydrogen decomposes when brought in contact with the sulphur-coated rag or wick, and thus the objectionable flavor passes off. But it will be slight enough to go away in the ordinary drawing off which must necessarily be performed for other purposes, unless sulphur has been applied to the vines late in the season, and in needlessly large quantities, and no heavy rain has come to wash it off, nor sufficient heat intervened to vaporize it away. But the slightest inconvenience of this sulphur flavor, so easily got rid of, is an inconsiderable evil compared with what results when, in absence of the proper remedy, the mildew, or its remains, passes into the wine. For which reason it is always well to sulphur vines whenever any considerable attack of the disease occurs late in the season, even though it comes too late to injure the fruit; for by fastening on such parts of the fruit-stems as yet remain green, it can maintain a foothold until vintage, and so find entrance into the press or vat.

M. Mares thinks the small quantity of sulphureted gas that will ordinarily be found in the new wine is valuable to preserve it, and thiunks, too, the wine made of sulphureted grapes is more even in quality, has a brighter color—very important in red wine—and keeps better than any other wine.

De la Vergne thinks the time will come when those who buy wine of the producer will be glad to hear him say:—"My vines were thoroughly sulphured," and we all know that in commerce it has long been the custom to fumigate wine casks, without complaints being made of any bad effect resulting therefrom.

Economizing the Fruit Crop.

The Grass Valley *Union* says that most of the fruit crop of that place will rot upon the ground for lack of a market. A few will put up some in cans; but the *Union* fears there will not be sufficient enterprise in that direction to drive eastern can fruits even from the shelves of the traders there.

We agree with the *Union* in its remark that such shiftlessness and wastefulness should be avoided. Besides canning, the drying of fruit should receive more attention in California than it heretofore has done. Instead of importing, as we now do, largely of both canned and dried fruits, we ought to certainly supply the full home demand for both, and export, with profit, large quantities of the latter. No other part of the continent ought to be able to compete with us in producing raisins, and dried figs, plums, prunes, pears, peaches, apples and apricots. In seasons of such abundance as the present, in our delightful climate, and with labor almost or quite as cheap as at the East, there ought not to be a bushel of good choice fruit of any kind wasted on this coast, and there would not be if our people possessed the right kind of energy and economy.

WATER SPROUTS AND SUCKERS.—During the season of growth, orchard trees should be looked over at regular intervals of two or three weeks, and all water sprouts and suckers rubbed off. If too large and firm to be thus removed without mutilating the bark of the tree, cut them off close up, and smooth—not leaving the slightest stub. Nothing gives to a tree or an orchard, an aspect so slovenish and forsaken, as does a crop of water sprouts and suckers, to say nothing of their exhaustive effects upon the legitimate growth of the trees.—*Pomologist*.

PRUNING PEAR TREES.—The English *Journal of Horticulture* says that with regard to pruning very young pear trees, the object should be to encourage the growth of wood in proper directions, rather than the production of a few fruits at the expense of retarding the development of the trees.

POULTRY NOTES.

History of the Brahmas.

The Brahma Pootra fowl was first brought to this country by a ship which arrived at New York in Sept. 1846. They were brought from Luckipore, a shipping port some distance up the Brahma Pootra river, in India.

The first brood from this shipment came out in May, 1847, the most of which was purchased by Virgil Cornish, of New Britain, Conn. The first public exhibition of these fowls was made at Boston, in 1850, by Mr. Hatch, of Hamptou, Conn., under the name of Grey Chittagongs, with which breed they were supposed to be identical; but a committee was appointed at that exhibition, which reported that they differed from the Chittagongs and should have a distinct appellation. They were accordingly named Brahma Pootra, after the name of the great river, from the banks of which they came, and have ever since been thus known.

The "pea comb" on the first birds was generally, but not in every instance, small. The comb differed essentially from that of the Chittagongs. There has been no degeneracy in the character of those fowls since their first importation. Specimens have been produced larger than the originals, which weighed as follows:—Cocks, full grown, 12 to 14 pounds—six to seven months of 9 to 10 pounds. Hens, full grown, 9 to 10 pounds.

The first specimens sold by Mr. Cornish, (December 1850) brought \$12 per pair; but, as the fowls became better known, and generally recognized as a distinct species, the price went up to \$15, \$25, and even as high as \$50 per pair.

Mr. C. continued to breed these fowls for eight years, and noticed a tendency to variation in color, sometimes darker than the originals, but more often lighter—but never white like the Dorkins.

All breeds of fowls having dark and light feathers can be varied either way, to darker or lighter, by always choosing the darkest or lightest for breeders. If a stock of Brahmas are pure, and they are allowed to breed together promiscuously, the variation in color will be quite noticeable, but slight.

We have gathered the above from a letter addressed by Mr. Cornish to Col. Weld, corresponding secretary of the N. Y. Poultry Society.

MAMMOTH BRONZE TURKEYS are advertised for sale by Mrs. Looso, Springfield, Illinois. She says that the original pair weighed 75 pounds! and that the young brood is also gigantic. We ought to have this breed in California, the native home of large growths.—*Etc.*

It may be pardonable, perhaps, to question the above reported weight, especially when, at the late "World's Poultry Show" in England, Mr. Simpson, of New York took the first prize for a gobbler which "kicked the beam" at only 39 lbs. 4 oz.

How to Make Hens Lay.

People would better understand this matter if they considered for a moment a hen to be, as she is, a small steam engine, with an egg-laying attachment, and thus there must be a constant supply of good feed and pure water to keep the engine and its attachment up to its work. In addition to keeping before hens, who have complete liberty, a constant supply of pure water, summer and winter, I have found that during the cool and cold weather of fall, winter and spring, a dough, compounded as follows, fed one day and then intermitted for two days, to produce excellent results:

To three gallons of boiling water add half an ounce of common salt, a teaspoonful of cayenne pepper and four ounces of lard. Stir the mixture until the pepper has imparted considerable of its strength to the water. Meantime the salt will have been dissolved and the lard melted. Then, while yet boiling hot, stir in a meal, made of oats and corn, ground together in equal proportions,

until a stiff mush is formed. Set away to cool down to a milk warmth. Before feeding, taste to see that you have an overdose neither of salt nor pepper, and to warrant the hens not being imposed on with a mixture not fit to be eaten. The hen mush should not be saltier than to suit your own taste; nor so hot with pepper that you could not swallow it, were so much in your broth. Beware of too much salt, too much lard and too much pepper; and beware, too, where the seasoning is not too high, of feeding this dough too long at a time. Let the hens be fed one day fully with it, then let it be omitted and the ordinary feed given two days, and so on, and the result will be found satisfactory. *Take notice.*—Hens fed this way will be a good deal less inclined to set than when fed in the ordinary manner.—*Country Gentleman.*

Heavy Ducks, Geese and Turkeys.

At the late grand poultry show at Birmingham, England, the first prize pair of Aylesbury ducks weighed 18 lbs. 9 oz., second ditto, 18 lbs. 10 oz. third ditto, 17 lbs. 10 oz.; fourth ditto, 18 lbs. 4 oz. Rouen—First prize pen, 19 lbs. 4 oz.; second ditto, 18 lbs. 6 oz.; third ditto, 18 lbs. 2 oz.; fourth ditto, 17 lbs. 11 oz.

The following are the weights of geese: Gander and goose exceeding one year old, first prize, 58 lbs. 12 oz.; second ditto, 55 lbs. 5 oz. Gander and goose, birds of 1870, first prize, 49 lbs. 4 oz.; second ditto, 49 lbs. Gray and mottled—gander and goose exceeding one year old, first prize 62 lbs. 6 oz.; second ditto, 54 lbs. 6 oz. Gander and goose, birds of 1870, first prize, 53 lbs. 6 oz.; second ditto, 49 lbs. 1 oz.

Mr. Wm. Simpson, the well-known New York breeder of fancy poultry, was a competitor at this exhibition and won, against "all England," the first prize on turkeys; the gobbler he sent weighed 39 lbs. 4 oz.

Mr. Simpson also sent to this exhibition, a pen of Dominiques, but though acknowledged fine birds, did not find favor in the eyes of the judges. They were the only specimens on exhibition, and were put in class "Miscellaneous," with Scotch Dummies, Cuckoo Corkings, etc.

GESE.—No more than three geese to one gander ought to be kept for breeding, and they require a wide range, affording plenty of grass and still water. A goose house for four should not be less than eight feet long by six feet wide, and high enough for a man to stand in upright. A smooth floor and good ventilation are necessary. Over the floor a little clean straw should be spread every second day, after removing that previously used. A compartment about two and a half feet square should be assigned to each goose for laying and setting, and when one is hatching, the gander and other geese must be shut out from her. Wherever a Toulouse goose lays her first egg, she is very pertinacious in there depositing the remainder. The Toulouse goose is a very good layer, but rarely desires to set, and if she does, is a very bad mother. When laying geese are kept together, and they are liable to interrupt each other, remove the eggs daily, and mark on each the day it was laid. They will continue for three weeks, but the freshest eggs should be set upon. If geese keep well to their separate nests, let the eggs remain.

VARIATIONS IN BLOODED FOWLS.—There has been some trouble among the fancy poultry breeders in New York. There were two varieties of Brahmas—one having a single comb, and the other a double comb. Which was the true breed? A convention settled the matter. It decided that a pure-blooded chicken may have a single or double comb. One peculiarity was insisted on, that the true breed should have clean legs—that is, legs without feathers.

SOFT SHELLED EGGS.—When soft eggs are laid by fowls they intimate, usually, that the egg organs are inflamed, which is occasioned by the birds being over fed or too fat. Spare diet, and plenty of green food, especially lettuce leaves, is the best treatment for fowls in that condition.

COLOR OF EGG SHELLS.—Fowls to which a portion of chalk is given with their food, lay eggs the shells of which are remarkable for their whiteness. By substituting for chalk a calcareous earth rich in oxide of iron, the shells become a light cinnamon color.

A GOOD LAYER.—A farmer of Seipio, N. Y., has a turkey that has laid 100 eggs in 100 days, never missing a day on account of sickness, or a circus in town, or anything.

New Publications.

SORGHUM AND ITS PRODUCTS.—An account of Recent Investigations concerning the Value of Sorghum in Sugar Production, together with a Description of a New Method of Making Sugar and Refined Syrup from this Plant. Adapted to Common Use. By F. L. Stewart. Philadelphia: J. B. Lippincott & Co., 1867. 8vo., pp. 240. For sale by Dewey & Co., S. F.

The supply of Southern cane sugar has been gradually decreasing of late years, while the demand for sugar is continually increasing. As the sugar cane cannot be grown except on a limited belt of territory along the shore of the Gulf of Mexico, other sources of supply have been sought. The Northern sugar maple is utterly inadequate. The manufacture of beet sugar has not been fully tested throughout the United States, although we have great hopes in California of its success, and we may here allude to articles in the *PRESS* on melon sugar. But the greatest attention of the country generally has been called to a plant which seems as adequate to supply us in future with sugar, as, in the few years since its introduction, it has proved itself capable of providing half the tables in the land with a rich and palatable syrup. This plant is the sorghum. It is called by botanists the *sorghum saccharatum*, all the different kinds being recognized as varieties of one species.

The publication of this volume comes therefore most opportunely. It is written for the benefit chiefly of the farmers and planters who foster this branch of industry, and it is written in such a manner that they can understand and use its contents. It is comprehensive in its scope, treating of the method of planting and cultivation, with full instructions at every stage of the process, of manures, soils, effects of climates, harvesting and storing the cane, the process of manufacture, description of mills, re-agents and processes, etc., etc. It treats also of other sugar producing plants.

THE ILLUSTRATED HORSE DOCTOR.—Being an accurate and detailed account of the various diseases to which the Equine Race are subjected, together with the Latest Mode of Treatment, and all the Requisite Prescriptions. Written in Plain English. With over 400 Pictorial Representations. By Edward Mayhew M. R. C. V. S., Philadelphia: J. B. Lippincott & Co., 1871. 8vo., pp. 522. For sale by Dewey & Co.

In this book, which is lavishly illustrated, Mr. Mayhew has sought to give to the reader directions which will direct the uninitiated in the primary measures necessary to meet the progress of disease, and which, when professional assistance could not be obtained, might even instruct the novice how to treat equine disorders in such a manner as would afford a reasonable prospect of success. He has also sought to show that cruelty is an extravagant indulgence. He says:

In the writer's conviction, humanity toward animals should be more commonly practiced—if not from any higher motive, because it is certainly the truest economy. To make this fact plain is the intention of the present publication. To prove that horses are gifted with something beyond the mere sensation which is common to all moving things, is the object of the present work. To convince the public, by appealing to the eye and to the understanding through the means of engravings and of letter-press, that the equine race inherit higher feelings than the vast majority of mankind are prepared to admit, is the purpose of the book now in the hands of the reader. To demonstrate how closely nature has associated man and horse in their liabilities and in their diseases—to induce men, by informing their sympathies, to treat more tenderly the timid life which is disposed to serve and is also willing to love them—is the highest reward the author of the following pages can picture to himself.

CROFUTT'S TRANS-CONTINENTAL TOURIST'S GUIDE, containing a full and authentic description of over 500 Towns, Villages, Stations, Government Forts and Camps, Mountains, Lakes, Rivers, Sulphur, Soda and Hot Springs, Scenery, Watering Places, Summer Resorts; where to look for and hunt the Buffalo, Antelope, Deer and other game; Trout Fishing, etc., etc. In fact, to tell you what is worth seeing—where to see it—where to go—how to go—and who to stop with while passing along the Union Pacific Railroad, Central Pacific Railroad of Cal., their Branches and Connections by Stage and Water, from the Atlantic to the Pacific Ocean. Sold by periodical dealers throughout the United States and in European cities. Sent prepaid by Dewey & Co. for 75 cents; bound, \$1.25.

The above title gives a description of the character of the third volume and second annual revise of this progressive publication, edited by Geo. A. Crofutt, publisher, who has spent years of active and adventurous life in the heart of the wild country portrayed by him in a natural and pleas-

ing style, not in the least dry to the traveller on his way or the home reader who is made to roam with truthful fancy over the longest and most excitingly interesting railway line in the world. Mr. Crofutt makes this publication his regular business, passing over the route and adding new material and improvements to his work constantly. It is now illustrated by over forty engravings. A large and complete colored lithograph map of the world shows the principal routes of travel, and very prominently the lines of a voyage around the world and time and cost of the only truly round trip which travelers make. This map is worth more than the price of the book, for wall or pocket use. We have a bound copy worthy of any library, and must say this book differs from many "guides" in being worthy of preservation and worth buying to those who do not travel the route.

Lake Superior Iron Mines.

We have received a very interesting pamphlet on the mines and furnaces of the Lake Superior Iron District, written by A. P. Swineford, the able editor of the *Marquette Mining Journal*. A few items from the work may interest our readers.

The iron ores are generally found in hills, rising from 100 to 500 feet above the level of the surrounding country. These hills are simply immense deposits of iron ore, though partially or wholly covered by layers of earth and rock. The ores are also found in the valley, but where so found are usually covered with a deep drift, which renders their extraction more difficult.

There are five varieties of ore: specular hematite, yielding 60 to 70 per cent. of slightly red-short iron; soft hematite, yielding about 55 per cent.; magnetic ore; "flag ore," a slaty, silicious hematite; and a silicious ore containing a variable amount of oxide of manganese.

There are 24 mines in operation, 16 blast furnaces, and one rolling mill. All but one furnace run on charcoal. All are hot blast and all but three have steam power. From 1856 to 1870, inclusive, there were produced 3,771,939 tons of ore and 243,460 tons of pig iron, valued at \$29,069,883. The average cost of extracting the ore is estimated at \$2 per ton.

The work gives a history of the district, and contains throughout interesting and valuable matter.

TULARE COUNTY SODA SPRINGS.—A correspondent of the *Bulletin* describes the McKelvey soda spring, situated on the north side of the south fork of Tule river, which delivers about sixty gallons of soda water per hour. It bubbles up continuously, is as strong as almost any one would wish, and too strong for some, until they let it remain in the cup a moment, and, I think, quite as good as artificial soda water, if sweetened with syrup, though most people prefer it without sweetening. It contains some iron, but not enough to spoil the taste. There are several other springs near by, some of which I think contain sulphur. There is also a spring on the north fork of Tule river, where, I am informed, hotel accommodations are to be had this summer. They call it Mount Tabor Soda Spring. It is not so strong with gas, but has more sulphur in it. With these healthy plains to live on in winter, and the soda springs as a summer resort, settlers will yet settle upon and irrigate this land, making Tulare county the Paradise of California. We have no mosquitoes, fleas or other pests of that kind to bother us.

THE CALIFORNIA ELASTIC CAR WHEEL.

We have seen several certificates of recommendation for the above invention of Dr. A. F. Cooper of this city. His wheels, originally illustrated in the *SCIENTIFIC PRESS*, have been in use for over twelve months, and the endorsements of their merits for utility and durability are by officials of railroads leading out of Boston, where the inventor now tarries.

POISON IN THE CLOTH.—A dressmaker was poisoned to death a few weeks ago by making up a green tarlatan dress. So much of the arsenic entered the pores of her skin that she died a few days afterward.

GOOD HEALTH.

Conditions of Comfort.

Every day we meet with persons who in their families are cross, ill-natured, dissatisfied, finding fault with everybody and everything, whose first greeting in the breakfast room is a complaint, whose conversation seldom fails to end in an enumeration of difficulties and hardships, whose last word at night is an angry growl.

If you can get such persons to reason on the subject, they will acknowledge that there is some "want" at the bottom of it; the "want" of a better house, a finer dress, a more handsome equipage, a more dutiful child, a more provident husband, a more cleanly, or systematic, or domestic wife. At one time it is a "wretched cook," which stands between them and the sun; or a lazy house-servant, or an impertinent carriage driver.

The want of more money than Providence has thought proper to bestow, will be found to embrace all these things. Such persons may feel assured that people who cannot really make themselves comfortable in any one set of ordinary circumstances, would not be so under any other. A man who has a canker eating out his heart, will carry it with him wherever he goes; and if it be a spiritual canker, whether of envy, habitual discontent, unbridled ill-nature, it would go with the gold, and rust out all its brightness. Whatever a man is to-day with a last dollar, he will be radically, essentially, to-morrow with a million, unless the heart is changed.

Stop, reader; that is not the whole truth, for the whole truth has something of the terrible in it. Whatever of an undesirable disposition a man has to-day without money, he will have to-morrow to an exaggerated extent, unless the heart is changed; the miser will be more miserly; the drunkard more drunken; the debauchee more debauched; the fretful still more complaining.

If you are not comfortable, not happy now, under the circumstances which surround you, and wish to be more comfortable, more happy, your first step should be to seek a change of heart, of disposition, and then the other things will follow—without the greater wealth! And having the moral comfort, bodily health will follow apace, to the extent of your using rational means. Bodily comfort, or health, and mental comfort have on one another the most powerful reactions; neither can be perfect without the other, at least, approximates to it; in short—Cultivate health and a good heart; for with these you may be comfortable without a farthing; without them never, though you may possess millions!—*Hall's Jour. of Health.*

Medicinal Qualities of Pumpkins.

At a recent meeting of the the New York Farmers' Club, a correspondent wrote of the virtues of the pumpkin, giving the following instance of its value for inflammatory rheumatism:—A woman's arm was swelled to an enormous size and painfully inflamed. A poultice was made of stewed pumpkins, which was renewed every fifteen minutes, and in a short time produced a perfect cure. The fever drawn out by the poultices made them extremely offensive, as they were taken off. I knew a man cured of severe inflammation of the bowels by the same kind of application. I think such subjects as this proper for discussion in a farmers' club.

Dr. Snodgrass—I have no doubt pumpkins make a good poultice. Whatever holds warmth best is the most suitable.

Dr. Smith—In my travels in Syria I found pumpkin seeds almost universally eaten by the people on account of their supposed medical qualities—not because they are diuretic, but as an antidote against animalcules which infest the bowels. They are sold in the streets as apples and nuts are here. It is a medical fact that persons have been cured of tapeworm by the use of pumpkin seeds. The outer skin being removed, the meats are bruised in a mortar, into an oily, pasty mass. It is swallowed by the patient after fasting some hours, and it takes the place of chyle in the stomach, and the tapeworm lets go its hold on the membrane and becomes gorged with this substance and in some measure probably torpid. Then a large dose of castor oil is administered, and the worms are ejected before they are able to renew their hold.

SINGULAR CASE OF BLOOD POISONING IN BOSTON.—Mr. John Snow, engaged in the fish business on Commercial wharf, recently had the misfortune to cut the top of the thumb on his right hand with a large and sharp knife which he was using. After applying a simple dressing to the wound, which bled profusely at the time, scarcely anything else was done to it, and Mr. Snow continued to attend to his business. On returning home last Wednesday evening he complained of severe pain in his hand and arm. During the night the severity of the pain increased, and inflammation setting in. Dr. Hall was summoned, who, after making a careful examination, discovered that the matter which had formed around the wound had been absorbed by the blood and consequently was circulating through the patient's system. The physician treated the case in the usual manner, but without any beneficial results, and the man continued to suffer apparently

in great agony until last Saturday night, when death ensued. A consultation was held by several medical gentlemen, who stated that death resulted from pyæmia.—*Boston Transcript.*

Sunshine in Dwellings.

The time will very likely come when sunshine, or sunlight, will be so utilized as to be the entire remedy used for very many diseases. That it is a wonderful vitalizer, none can doubt who know anything about it.

But how many houses are constructed with a view to getting all the sunshine possible, especially when so much needed as in winter and spring? The living, or sitting-room, at these seasons of the year, at least, should have a full southern exposure, with large windows to let in the sunshine. Sleeping rooms, wardrobes, closets, passage ways, should receive the cleansing, vivifying influence of the sun. Sickly persons should court the sunshine as much as possible,—sit in it, lie in it, luxuriate in it. It doesn't cost anything, only appreciation.

A room warmed neither by the sun nor by fire, is unhealthy, and not fit for human habitation. It is a poor theory that sends men, women or children off into a cold room to sleep, on health principles, when warmth has been excluded for a day or a week, or perhaps months. The change in the temperature of a room, having both fire and sunshine, after the sun goes down, is exceedingly marked. A perceptible chill is felt.—*Exc.*

To Avoid the Ague.

The first suggestion, of course, is to leave those districts where this troublesome complaint prevails. Sometimes, however, one's residence cannot well be changed. To persons so circumstanced, there are preventions by the use of which the majority might generally escape it, which are referred in the *Journal of Health* as follows:

1. Avoid exposing themselves to the malarial air after sunset and before sunrise.
2. Occupy rooms at night on the sunny side of the house and up stairs.
3. Build a fire in the house as soon as the dew begins to fall. The heat of the fire will do much to kill the malaria.
4. Keep the skin healthy and active by a thorough bath every day on rising, in a warm room, with sufficient friction to produce a healthy reaction.
5. Keep the bowels open by a proper diet. In nine cases out of ten the cause of ague would be easily overcome if the depurating organs were not overtaxed and morbid matters allowed to accumulate in the system to oppress it.

WHAT IS THE CAUSE OF SO MUCH LOSS OF LIFE.—What is the deeper cause of this wide spread and lamentable destruction of human life; and, if remediable, how is it to be remedied? Obviously, the cause is want of the mental capacity of self-protection, and the sole remedy is to supply that want, which is the true work of education. We hear of the instinct of self-preservation, but the idea is erroneous; there is an instinct of love of life, but self-preservation is an affair of the reason and of knowledge. Again, there is much said about the injurious consequences of breaking the physical laws, but this also is a mistaken notion. It is not the physical laws that are broken in these cases, but the laws of reason; while the great mass of accidents from which people suffer, are simply the penal consequences of loose thinking.

WORTHY OF CONSULTATION.—The "*Manufacturer and Builder*" says that the best article for spectacles is crown-glass. Glasses of Brazilian pebble transmit to the eye the rays of heat, which form 70 per cent. of solar light and much more of artificial lights. Good crown-glass, free from lead, is much less permeable to heat rays and therefore less injurious.

MOST HEALTHFUL SEAT IN A CAR.—Other things being equal, the forward seats in a street or railway car are the most healthful. The forward motion of the car causes a current of air backward, carrying with it the exhalations from the lungs of the forward passengers. In all cases avoid as much as possible inhaling another's "breath."

LEMON FOR A COUGH.—Roast the lemon very carefully without burning it; when it is thoroughly hot, cut and squeeze into a cup upon three ounces of sugar, finely powdered. Take a spoonful whenever your cough troubles you. It is good and agreeable to the taste. Rarely has it been known to fail of giving relief.



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SAN FRANCISCO:

Saturday, July 29, 1871.

Our Weekly Crop.

The entrance to our farm presents a most picturesque appearance, for here we have laid out, in most approved style, a Rice Field, in which our visitors can examine the best methods of growing this article.

Beyond the rice field is the Library of Mechanical and Scientific Progress with its interesting and valuable stores. Still further on we see Coal Beds exposed to the view, and a representation of a Golden City,—one actually existing in Colorado. On the high hills, which bound our ranch on one side, we see Mountain Farming, and from beyond the hills we hear sweet Notes from Oregon.

In one part of the field we find assembled the Santa Cruz Farmers' Club, witnessing the performances of Lady Thorne, the fastest horse in America, who goes flashing by the broad expanse of Mesquit Grass, and past the Cranberry Pasture; and while we walk on to the Orchard, we have opportunity to hear the Agricultural Notes of the week.

In the Orchard, we talk of the Coloring of Fruit, the Effects of Sulphur on Wine, and concerning methods of Economizing the Fruit Crop. Coming to the Poultry Yard, we are told the History of the Brahmas, shown How to Make Hens Lay, and see some Heavy Ducks, Geese and Turkeys.

We meet a company of authors and talk over the New Publications. We come across an assemblage of doctors, and converse on Conditions of Comfort, the Medicinal Qualities of Pumpkins, Sunshine in Dwellings, the Ague, and other miscellaneous subjects relating to the matter of Good Health. We meet the officers in charge of the coming State Fair, and hear their plans concerning the proposed Stock Exchange. The commission merchant has something to say about Marketing Pears.

The Inventors show us a list of Patents. The lover of nature calls our attention to the need of more care for the Yosemite Valley and exhibits a photograph of the Yosemite Falls. We witness the Burning of a Coal Mine, and glance over a list of the approaching Fairs.

As we linger around the Home Circle, we hear songs and stories, in which the Young Folks have a share. We are given lessons in Domestic Economy, followed by Hints and Receipts, and closing with Life Thoughts. Then we refresh our memory with a glance at the State Fair Premiums and the Market Reports, to keep posted on these things during the coming week.

TO CORRESPONDENTS.—We have several communications and queries on hand for which we shall endeavor to find room next week. Our friends will excuse occasional delays with their favors, which are sometimes unavoidable.

THE ANNUAL FAIR of the Clark county Agricultural and Mechanical Society will be held at Vancouver, on the 19th, 20th, and 21st of September.

The State Fair—Stock Exchange.

The present appearances indicate that the approaching State Fair will be superior in all respects to any that have preceded it. Early in the season Corresponding Secretary Hoag opened correspondence with the secretaries of Eastern State societies, suggesting an exchange of fruits for exhibition at the respective fairs here and there.

Affirmative answers have been received from some fifteen of the Eastern States, and arrangements have been made with the different railroad and express companies plying between the Atlantic and Pacific States, by which all packages of fruit for exhibition at the several fairs will be transported free of charge—both coming and going. This will give our State Fair an exhibition of fruits from some fifteen of the Atlantic States, besides the magnificent display that will be made this year by our own people. The prospects are good in all other departments. Applications for space in the pavilion and for stalls at the park are coming in daily. Already 170 stalls have been engaged, and many of these are already occupied.

A New Feature

And a very important and useful one is being inaugurated this year, in the nature of a Stock Exchange.

A great demand is being developed on this coast for blooded stock of all kinds. We have in our State a large number of the best of thoroughbred colts, of pure blooded short-horn, and other cattle; of full-blood merino—south-down and other approved breeds of sheep and good breeds of swine. Many of these animals are for sale at prices less than it will cost to import equally good animals from the Eastern States or any other country. The State Fair of all other places and times presents the best opportunity to bring such animals before the public, and to bring the buyers and sellers together.

To facilitate the exchange of stock on this occasion, an office will be opened in the main building at the stock ground, and a stock exchange book will be opened in which will be entered the names of all parties having stock for sale, the kind, age, and pedigree of the stock, etc. Also the names of all parties wishing to buy, and kinds of stock wanted. All facilities that can be, will be given to both buyers and sellers, and it will be of general advantage to all interested if they will send in their names and desires to the Recording Secretary, Maj. Robert Beck, at once.

Preparations for the State Fair.

Already the various committees are busily engaged preparing for the great gala season of the State—the State Fair. Applications for space in the Pavilion and stalls at the Park come in so rapidly that the board is astonished that more room will be required at both places than at any previous fair, and they are determined to furnish it. At the Pavilion all the old partitions are being taken down in the basement so as to make one large room, the same size as the main hall above, the old floor is being torn out and a strong new floor is being substituted.

At the Park 100 additional stalls are in process of construction for horses and cattle, and many pens and sheds being built for pigs and sheep.

Additional stands and seats for visitors are being prepared and everything is being made ready for the great occasion.

CALIFORNIA SILK MANUFACTURING COMPANY.—This company has just elected its Board of Trustees for the current year, as follows: Henry F. Williams, T. Ellsworth, C. J. Pillsbury, H. Rosekrans, C. W. Smith. Mr. Johnston goes out of the Board as General Agent, for the purpose of taking charge of a large cotton plantation, as elsewhere noticed.

Marketing Pears.

A correspondent of the New York Horticulturist gives some excellent hints under the head of "How to Market Pears." We condense as follows:—

The pear is a very delicate, tender and valuable fruit, provided it is placed in market, sound, perfect in form, bright and beautiful; and in order to do that—admitting it is sound and perfect—it must be handled with the greatest care, and kept from too much exposure to the atmosphere; for there is no fruit in this country so sensitive to changes in the air as the pear, and just here is where the difficulty lies in marketing this fruit.

The crate or basket is condemned as utterly unfit for a package in which to market pears. Half barrels are recommended as the best form of package, and the box as next, for convenience and proper fitness. But whatever package is employed, it should be clean; great care should be used in removing all dust on any foreign substance that has a tendency to injure the fruit. The package should be properly ventilated by boring holes in the sides. The number of holes should be governed by the ripeness of the fruit, and the heat of the weather.

It may be that the fruit is so green and hard that the owner may desire to hasten the ripening process; in that case it may be prudent not to ventilate at all. The grower may in this manner largely control the ripening of his fruit. And the real beauty of the fruit, after size and perfection is considered, is produced by this ripening or sweating process. It produces a clearness of the skin, which is much sought after in pears, and which consequently greatly enhances their value.

A little hay placed on the top and bottom of a package will prove a good protector from bruising, and will also assist the fruit to color properly, when it cannot be left on the tree until ready for eating.

When carefully packed, pears will bear transportation well, and the dealer is enabled to handle them to better advantage. As the writer chooses the half barrel for his package, his hints for packing are not altogether applicable to the box as used here; yet with some modifications they will be found very useful. We quote his directions verbatim:—

"In order to pack in the most approved mode, take out the end you design for the bottom; begin packing by placing the fruit in rows around the bottom, standing it on the blossom end. Be careful that this tier is packed tight with a good average quality of fruit; when completed reverse the order for the next layer, chambering the stems so as to make all tight; then continue to fill in irregularly, until the package is full; then, on the top place a few imperfect ones that may be bruised with impunity, pressing the head down on them hard enough to hold the entire contents of the package so tight that none of it will move. Nail this head strong, and on the other head place the variety, with your initials and the consignee's address, so it may be opened in order to show the fruit to a good advantage.

In handling this fruit, always avoid breaking the stems, for they add to the beauty and value of it.

There is another very essential point to be observed in packing, and that is, to have all the fruit in one package as near one degree of ripeness as possible; then part of it will not perish before the other ripens. The grower must also take in consideration the time it takes to get his fruit in market.

In regard to sorting qualities of fruit I should be governed by the character of it. If the general quality is even in size, and of a fair average quality, I would reject the culls, and make but one quality of the remainder; but should a great difference exist, I would make three."

THE STATE FAIR PREMIUM LIST.—We would call the especial attention of our readers to the State Fair Premium List, which appears to-day for the last time, in our columns. Farmers and others will do well to look it over carefully, and select therefrom whatever they think they can best compete for.

Rice Culture for California.

We have placed upon our first page, from the California Rural Home Journal, (an excellent paper in its day, but long since discontinued), a valuable article on rice culture, originally prepared for the journal mentioned by an intelligent gentleman, who has had much experience in that business in the Southern States. The article is accompanied by the original illustrations, for which we are indebted to Mr. T. H. Hyatt, and by the aid of which the reader will be able to form a very correct idea of the manner of preparing the grounds for the cultivation of this important cereal.

We have millions of acres of tule and bottom lands along the river valleys of California, which are most admirably adapted to the cultivation of rice. We have also a great plenty of the very kind of labor needed for rice growing, and some limited experiments have been made in the State which seem to warrant the conclusion that our climate is well adapted to such culture. The want of success, so far as it was shown in these experiments, from what we can learn, should be attributed to lack of knowledge and practical experience in the business.

The article we give to-day, and which will be concluded in our next issue, will be found a most invaluable aid to those who may wish to engage understandingly in the cultivation of rice; and we recommend its most careful perusal. It furnishes a complete manual for such cultivation, and should receive the widest possible circulation.

A Destructive Fire.

On Saturday last a destructive fire occurred among the manufacturing establishments on Fremont and Mission streets. The buildings here being occupied to a large extent by wood-workers, the fire rapidly made headway and was only overcome after a large amount of ground had been burned over.

The loss of the Mechanics' Mill, whose buildings, machinery and stock on hand were completely destroyed, is set down as \$40,000. Howland & Co.'s ore-reducing works were also destroyed, and the loss here is given as \$50,000. B. F. Freeman, stair-builder, lost machinery, patterns, etc., of the value of \$10,000. The fire extended to the Pacific Boiler Works, which lost stock and machinery to the amount of \$10,000. J. M. Stockman lost \$7,000 worth of patterns, machinery and stock.

The largest loss, however, was that of Garrett's brass foundry, occupying four buildings, including foundry, bell foundry, finishing shop, and store house. This is estimated at nearly \$100,000, insured to the amount of \$17,500. But Garrett & Co. are not easily daunted, and they have already started the erection of buildings, and have commenced casting.

The total estimated loss is given as nearly \$262,000. The insurance was very small, as the rates are high for such establishments. In addition, some 200 workmen have been thrown out of employ, which is a very great hardship at the present time. This last is certainly one of the most deplorable results of the fire.

ARRIVALS.—Gen. Horace Capron, Prof. Theodore Antisell, Major A. G. Warfield, Jr., and Stuart Eldridge, have arrived from Washington, and are at the Grand Hotel. Gen. Capron, with his associates, are on their way to Japan, in accordance with the commission which they hold from that government, and to which we made reference two weeks since. We trust that our visitors will receive all the attention and courtesy, and all the aid in the power of our people to furnish them with all needed information, as it will most undoubtedly redound to the good of our whole coast by making our resources known to that government in whose interest he is now engaged.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING JULY 11TH.

MEDICAL COMPOUND OR BITTERS.—Abram M. Loryea, East Portland, Oregon.

PRINTER'S GALLEY-REST.—John M. Murphy, Olympia, Washington Territory.

GANG-PLow.—William Hay and Thomas B. Freeman, Hillsborough, Oregon.

SHINGLE MACHINE.—Oliver A. Olmsted, Sebastopol, Cal.

CURTAIN FIXTURE.—Lodowick L. Sawyer, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

The State University.

Last week we had the pleasure of visiting the chemical and physical laboratories of the State University. We had heard that some of the very extensive chemical apparatus, (purchased some years ago in Germany by Professor Fisher for the University) had been unpacked, and Prof. Carr very kindly gave us the opportunity on inspecting the laboratories.

It would fill up a very large portion of our space to enumerate the articles which we saw, which comprise full sets for qualitative and quantitative analysis of solids, liquids and gases, (the last to a certain extent). Vessels of glass, porcelain and platinum, of every kind, a large assortment of the rarer and more difficultly obtainable chemicals, everything necessary for a complete laboratory, are here collected. Only a part of the apparatus has been unpacked, and we were shown the exterior of numerous boxes stored away in different places, whose contents are yet undisturbed. It is therefore very difficult to make comparisons of the amounts here and elsewhere, but we can at least say that we very much doubt whether any institution of the country has a larger collection than has the State University.

This apparatus is intended for all the various colleges of the University, agricultural, mining, medical, mechanical and classical, and hence its large size. It would appear as if the equipment of such a laboratory as Bunsen's, in Heidelberg, had been taken in part as a guide for its collection.

We were also shown considerable apparatus for assaying, drawings of metallurgical apparatus, and the basis of a mining library. We were next shown a collection of physical apparatus, some of it very excellent, made by Prof. John LeConte.

In the technological department were several sets of materials, showing the various substances and reagents employed in powder manufacture, sugar making, wood preserving and artificial stone manufacture (Ransome's), and illustrating the various stages of each process, forming very interesting collections.

A large geological collection and a number of cases of minerals were likewise viewed. We saw enough to convince us that the University has sufficient equipment in these respects for full courses of study; and we likewise saw that it has not yet sufficient room for the proper arrangement thereof. Prof. Carr has, we understand, been occupied for some time in arranging what is now visible, and he has yet plenty of work to do. We believe that he has no assistant (we omitted asking him), but certainly he must need one, as the calls upon his time are very numerous,—more than any one man can properly respond to. For his kindness in devoting several hours to us, we are indebted to him,—and just as deeply indebted as if it were not vacation for the students.

The Yosemite Valley.

A statement has been published, said to have been made by Galen Clark, Guardian of the Mariposa Grove and the Yosemite Valley, which shows that the State ought to do more for the preservation of these places. The Legislature of 1865-6 made an appropriation of \$2,000, which was to last two years and to pay all expenses incident to taking charge of the Valley and Grove. There are eight commissioners, it will be remembered, and all their traveling expenses, printing, building two bridges, etc., etc., were to be paid for out of this sum. Mr. Clarke was to receive \$500 per year for himself and a sub-guardian, or \$250 each. This has not been paid since 1867.

Some complaint having been made with regard to tolls charged at the Valley, Mr. Clark explains that a bridge over the Merced and a series of ladders and a trail leading up to the Nevada and Vernal Falls were considered a necessity. The commissioners had no money for them. They therefore allowed them to be built (and toll charged) with the understanding that the State can purchase them at any time at a valuation which is to decrease every year; and at the end of ten years they revert to the State if not purchased beforehand.

While we were at the Mariposa Grove last month, we noticed with pain the ravages made by fires. It now appears that Mr. Clark spent eight days last year, and undoubtedly more previously, in checking fires. What we saw was probably the result of previous fires.

Mr. Clark distinctly disclaims any desire to make complaints against the State for arrears of salary due him. But we, although we have never seen the gentleman, do complain of this on the very principles of justice. We join him in the expressed wish that action should be taken for improving the Grove and Valley. There is a most urgent necessity therefor.

These two localities ought to be well preserved. They were given to the State with the understanding that they should be. The State dare not be meanly parsimonious in the matter, for parsimony means destruction of many of their chief beauties. If the State is unable to take care of them, then she should re-convey them to the United States. Indeed, it would be better that they should be kept in proper condition as private property, than injured through public neglect. The good condition of the Calaveras Grove shows that they can be preserved. But the State ought to own them and to care for them. We hope the next Legislature will set all this matter right.

The Yosemite Falls.

In connection with these remarks, we

give an illustration of one of the most remarkable features of the valley—the Yosemite Falls, from Hutchings's Scenes and Wonders of California. These are three in number; that is, the Yosemite stream makes three leaps from the cliff above. The upper fall is about 1,448 feet, although the view, being from a point close to the cliffs, does not give this impression. We lately climbed up to the foot of the upper fall, and indulged in a shower bath there. The trip was a pretty difficult one, but we were fully repaid by the wonderful views, both of the falls and of the valley and opposite cliffs and peaks.

A Coal Mine on Fire.

The Philadelphia *Bulletin* describes the ineffectual efforts made to extinguish a fire in a coal mine in Pennsylvania, which was in progress in 1858. It says: The miners had as yet had no experience, and a very simple, in fact entirely too simple, means of extinguishing the fire was adopted. A

dam of timber was built across the gangway, of but little more power than a partition between two rooms. This was intended to retain the water and back it upon the fire, which would then certainly be extinguished by it. The theory was good, but unfortunately, when the water rose to a considerable height, the dam gave way before the pressure. A second dam was immediately erected, but met with the same fate. It was then decided to build a dam which could not be burst by all the pressure that could be brought to bear on it by the waters of the mine. Four feet were cut out of the solid coal in the top, sides and bottom of the gangway, and a solid structure of oak, strong as a canal lock, was erected, and clay packed in behind it for the space of ten feet. The

water backed up against this, but now it was not the agent of destruction. The fire had made a detour through the coal, and had enveloped the dam on all sides, save one, and on that was the water. No human structure could exist in such a conflict of the elements. It was earth against fire, water and air, and earth succumbed. The dam having given away, the fire soon reached the mouth of the slope, and the hopes of extinguishing it were given up. Since that time the mine has been closed. The fire will soon burn out, but will certainly not be extinguished in any other way. Occasionally small tracts of land fell into the fiery furnace below. The effects of the fire and its accompanying heat are almost as well shown here as at Vesuvius or Etna. The rocks are baked, and are of many shades of color; they have changed their stratified position, and are inclining in every direction. But perhaps the most interesting of all are the changes wrought in the rocks containing iron pyrites. The pyrites have been heated in the proximity of steam, which causes them to be soluble in water; they have then been dissolved out of the rocks, leaving perfectly cubical, glazed cavities in the solid rock, giving to it a honeycombed appearance.

The Approaching Fairs.

The San Francisco Bay District Horticultural Fair, and the Exhibition of the Mechanics' Institute will open the Fair season one week from next Tuesday. The State and various County Agricultural Societies follow during the last week in August, and all the month of September. The time of holding such exhibitions is regularly published on the 13th page of every issue of the *RURAL PRESS*. It is important that those who intend exhibiting, should be making the necessary preparations.

The Pavilion, in this city, has for some time been a scene of busy activity, in preparation for receiving goods. The area of the Pavilion has been largely increased, so that it now occupies the entire square, with the exception of a little space in front, which is absolutely needed for outside room, to prevent encroaching upon the streets. This exhibition will undoubtedly exceed anything of the kind ever witnessed in this State.

The prospects are that the State Fair at Sacramento will also be superior in all respects to any which have preceded it. Some notice of what is being done in that direction will be found in another column.

Very little has been said about the various County and District Fairs, as yet; but it is fully time that active preparations were being made. The first County or District Fair, in point of time, will be that of the Santa Clara Valley Agricultural Association, which will be opened on the 28th of August at San José.

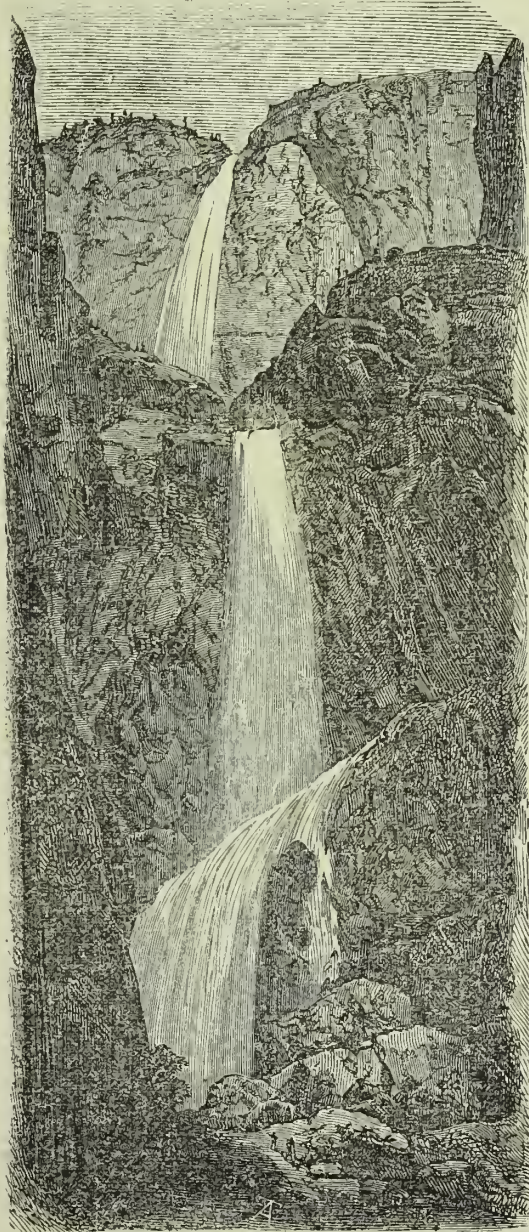
A meeting was held in Stockton on the 20th inst., at which preliminary measures were taken to secure an exhibition there, which shall be creditable to the great and growing agricultural interests of the magnificent valley of the San Joaquin.

At a meeting for election of officers to serve for the ensuing year for the Northern District Agricultural Society at Marysville, held on the 26th inst., it was unanimously voted to hold an exhibition this fall after the State Fair, the time for which will be duly announced. This society has nearly paid off its indebtedness of some \$4,000. At the meeting as above, Mr. S. W. Selby was elected President, and the following gentlemen were chosen to constitute the Board of Vice-Presidents:—William C. Murphy, J. B. McDonald, C. B. Kimball, Chas. E. Sexey, M. C. Duffey, of Yuba; Charles Kent, of Nevada; John Boggs and John Devine of Colusa; G. W. Nickerson, of Placer; Harman Bay, of Butte; S. T. Brewster, of Plumas; D. J. Cole, of Sierra; Thomas Dean and W. P. Hardey, of Sutter; C. F. Reed, of Yolo; J. B. Frisbie, of Solano. Mr. J. C. Donlay was chosen Secretary, and M. Marcuse, Treasurer.

Silk Culture a Success in the Foot-Hills.

We have good reports of silk culture from all quarters this year, but more particularly in the foot-hills. We have received a letter from Albert Mosby at Coloma, El Dorado county, in which he says: "The eggs commenced hatching in duo season and in about four days all were out and went through their several ages without loss, and commenced winding on the 21st day of feeding, and now, at the end of the fourth week, are very nearly all wound. Not a thousand remain. So I call my operation a success." Well he may, for this is the best time we have known worms to make in this State, by about six days. In China they spin in twenty one days; but it generally takes from 28 to 36 days here. The reason we have always attributed to our cool nights. We have always believed the foot-hills would prove the locality for silk culture and recent experience is demonstrating this to be a fact beyond peradventure.

THE SAN JOAQUIN CANAL is being rapidly pushed ahead. Two miles have already been completed. It will be finished to Grayson in season for next year's crop.



NEAR VIEW OF THE YO-SEMITE FALLS.—2,634 FEET IN HEIGHT.



Coming Home.

O brothers and sisters—growing old—
Do you all remember yet
That home in the shade of the rustling trees,
Where once our household met?

Do you know how we used to come from school
Through the summer's pleasant heat,
With the yellow fenel's golden dust
On our tired little feet?

And how, sometimes, in an idle mood,
We loitered by the way,
And stopped in the woods to gather flowers,
And in the fields to play;

Till warned by the deepening shadow's fall,
That told of the coming night,
We climbed to the top of the last long hill,
And saw our homes in sight?

And, brothers and sisters, older now
Than she whose life is o'er,
Do you think of the mother's loving face,
That looked from the open door?

Alas, for the changing things of time!
That home in the dust is low,
And that loving smile was hid from us
In the darkness long ago.

And we come at last to life's last hill,
From which our weary eyes
Can almost look on that home that shines
Eternal in the skies.

So, brothers and sisters, as we go,
Still let us move as one;
Always together keeping step,
Till the march of life is done.

For that mother who waited for us here,
Wearing a smile so sweet,
Now waits on the hills of Paradise
For her children's coming feet.

How to Make Boys Dislike the Farm.

"Well, well, Jo, you needn't say another word about it! I can't have my garden filled up with such trash as this."

And farmer Blake gave a contemptuous cut with his hoe, at the remaining dahlias and tulips, which were nicely sprouting in one corner of the yard; while his son stood gazing at a broken geranium which he held in his hand, with a grieved and angry look on his bright handsome face.

"I'm going to have some cabbage here," continued Mr. Blake, as he finished cutting down the climbing rose in the corner. "You'll find if you live as long as I have, that such flumadiddles as these won't victual and clothe you."

And tossing the bulbs and bushes over the fence, he went into the house for his cabbage seed. It was early in May. For the last month Mr. Blake had been absent from the farm a greater part of the time; and Joseph had improved his leisure moments during that while, in clearing away some rubbish, and nicely preparing a flower-bed in one corner of the garden which was seldom used.

He had spaded and raked, whistling away as blithe as a lark. And the week before, one of his neighbors seeing him at work, as he was passing the house, called out. "Hallo, Joseph! what's up now?" "I'm going to have a flower garden, sir. Father don't use this corner, and I want to see some flowers growing at our house, once. Mother likes them too, as well as I."

"That's right, my boy," said the good-natured neighbor. The flowers will be good friends to you. Came over to The Oaks, and I will give you as many plants and flower seeds as you want."

"O! thank you, sir," cried Joseph, his eyes sparkling with pleasure, "I've been wondering where I could get some." So Joseph got his plants, and set them out with the greatest care, and watered and tended them, until they were all flourishing nicely, when his father came home who having learned in his absence that he might make a few cents by selling cabbage plants, at once made up his mind that he would raise some for the market. So on going into the garden and seeing what Joseph had done he concluded that he must have that particular spot (though there was plenty of room elsewhere), because he detested flowers, and was not going to encourage his children to waste their time in that way. Therefore in spite of all poor Joseph's expostulations and

entreaties, over the fence went his precious plants in a twinkling. As soon as his father had gone into the house, Joseph threw down the geranium, and walking slowly and sadly out of the garden, went round to the front of the house and threw himself down under the great maple, whose cool shade was his favorite resort in time of trouble.

There his sister Nellie, having heard of the fate of his garden, from his father, found him a few minutes after. Although there were three other children, Nellie and Joseph being the eldest, were all in all to each other, and neither had a pleasure or a sorrow that was not shared by the other.

"O! Joe, it's too bad, isn't it," said Nellie, mournfully, sitting down by his side and laying her hand on his curly head. "Too bad! its downright mean!" cried Joe, wrathfully, as he sat bolt upright, and dashed away the tears that would come in spite of his fifteen years. "It's no sort of use trying to do anything! I hate this old farm and I'll get away just as soon as I can." "O hush! Josie, don't talk so," said Nellie, with a quivering voice. "You don't want to go and leave mother and the boys do you?" "And you, Nell," added Joe thoughtfully. "No, of course I don't, but father is bound I shan't have a good time about anything unless I steal it; there's nothing but this everlasting drudge, drudge with him, and I tell you I can't stand it." "I don't believe father knew how much you thought of those flowers," suggested Nellie. "I don't believe he cared," interrupted he, flaming up again at the thought of his ruined plants.

Nellie sat looking at the nodding dandelions in the grass; at last she said, "I wonder what makes us so different from other folks. Now over to The Oaks, Mr. Gilmore's, where you got your flowers, the children have a real nice time, and they work too, about as hard as we do, but they never seem to mind it."

"I know it," was the reply, "and they have the nicest little yard, fenced off for flowers, and Mr. Gilmore tells them how to plant their seeds and fix it all to look nicely, and seems to like it just as well as they do. Then if they are going anywhere, they can always take the horse, if it isn't busy; dear me, father would rather our horse would stay in the barn a month than to let me drive it. And don't you know, Charley and Willie Gilmore have some rabbits and a tame coon, that they have lots of fun with? Frankie told me too, when I went after those flowers, that last spring his father gave him a swarm of bees! and he got as much as forty pounds of real nice white honey from them, all for his own. Then he showed me his water wheel, down in the brook front of the house. I tell you, it was just splendid! My father would smash it all to bits if I should make one. I wish he loved anything beside work and money."

"I suppose he really does after all," said Nellie, "for when mother was sick, he sat up with her night after night, and took the best care of her, and he does of us too. I suppose he means to be good to us; he gives us all the good things to eat we want, and the clothes we really need; but then he don't want we should have anything pretty, when we can just as well as not. I sometimes wonder what people have eyes for that never care how anything looks." "So they can see to work, I suppose." And Joe gave a handful of grass a spiteful toss in the air.

"Now, there's our kitchen and dining room," said Nellie, beginning to think of her troubles. "I really am ashamed to have anybody come to see us—holes in the floor, paint off of the doors, and the ceiling so dingy. It would cost but a few dollars to make it real neat and pretty, and we should feel so much better. I know mother wouldn't look so sad as she does now. But then if I say anything about it father riles up, looks daggers at me, and says, 'Well, gal! d'ye think I'm made of money? I tell you a fine house never supported anybody yet.' So there it is; we may as well make the best of it and say nothing." "I suppose so, sis, but as soon as I'm twenty-one, I'm off!" and rolling over on the grass, Joe sprang to his feet, and went to his work at the barn.

Passing over a period of fifteen years, let us look once more at the homestead of farmer Blake. The brown, one-story house stands under the wide-spreading maple, very much the same as of old, except it is a little more weather-beaten and out of repair. Looking within, we find the years have borne heavily upon the gray-haired and feeble old farmer, while the careworn face of Mrs. Blake yet wears the

old look of patient endurance. Faithful Nellie, too, is there, for she would not leave her much-loved mother and feeble father in their need. Yet the sad look in her once merry eyes tells that life has not been to her what "it might have been."

But the boys are not found at the old homestead. Joseph made good his intentions, and left home the moment he was at liberty. Going to the city of B—, he worked steadily till he had saved money enough to buy him a farm, when he returned, and purchased land, but a short distance from the old home, that he might be near "mother and Nellie," for his native love for the true enjoyment and independence of a farmer's life was not entirely killed by his early training. Having built a neat and commodious house and barn, with his young and cheerful wife, prosperous and happy, he is living out his idea of what a farmer's life may be.

But the younger boys, lacking Joseph's strength of character, early brought sorrow to the home under the maple. Harry, the next younger, impatient of his father's rigid discipline, ran away to sea when he was but sixteen, and he has never since been heard from. While Edward and Herbert with their youthful longing for pleasure, entirely unsatisfied at home, learned to steal off to the village saloon and places of like character, where card-playing, drinking and smoking were the chief amusements. At twenty-one Edward died with the *deliriums tremens*. And Herbert is drifting about from place to place, with no permanent business or purpose of life.

Mr. Blake mourns that none of his boys would stay at home to care for him in his old age, and wonders that they have turned out no better when he trained them so strictly. I fear that many other farmers wonder why their boys will not stay on the farm. But Mr. Gilmore at The Oaks needs not to ask that question.—*National Agriculturist*.

WOMAN'S INFLUENCE.—It was all a dream that made the wife of Julius Caesar so anxious that he should not go to the Senate chamber on the fatal Ides of March; and had he complied with her entreaties he might have escaped the dagger of Brutus. Disaster followed disaster in the career of Napoleon, from the time he ceased to feel Josephine's influence on his impetuous spirit. Washington, when important questions were submitted to him, often has said that he should like to carry the subject to his bedchamber before he had formed his decision, and those who knew the clear judgment and elevated purpose of Mrs. Washington thought all the better of him for wishing to make her his confidential counsellor. Indeed, the great majority of men who have acquired for themselves a good and great name, were not only married men, but happily married—both paired and matched.

DOMESTIC LIFE.—The banes of domestic life are littleness, falsity, vulgarity, harshness, scolding, vociferation, an incessant issuing of superfluous prohibitions, and orders, which are regarded as impertinent interferences with the general liberty and repose, and are provocative of rankling or exploding resentments. The blessed antidotes that sweeten and enrich domestic life are refinement, high aims, great interests, soft voices, quiet and gentle manners, magnanimous tempers, forbearance from all unnecessary commands or dictation, and generous allowances of mutual freedom. Love makes obedience higher than liberty. Man wears a noble allegiance, not as a collar, but as a garland. The Graces are never so lovely as when seen waiting on the Virtues; and, where they thus dwell together, they make a heavenly home.—*Alger's "Friendships of Women."*

CONVERSE WITH CHILDREN.—Do not talk to your child of your right over him, or of the limits of your right; but exercise this right so that the child shall feel and acknowledge it himself, without thinking of looking for its limits.

A LITTLE girl, when her father's table was honored with an esteemed guest, began talking very earnestly at the first pause in the conversation. Her father checked her very sharply saying, "Why is it that you always talk so much?" "Tanse I've dot somesin to say," was the innocent reply.

ONE of the best ways of decreasing crime among the members of both sexes is to destroy the belief (which is steadily spreading) that it is vulgar to work for a living.

Young Folks' Column.

Keep Away from the Wheel.

Little Charlie Williams lived near a manufactory, and he was very fond of going among the workmen and the young people who were at work there. The foreman would say to him: "Keep away from the wheels, Charlie." Charlie did not mind, and would often say: "I can take care of myself." Often he would go near, and the wind of the wheels would almost suck him in, and two or three times he grew so dizzy, that he scarcely knew which way to go. At length one day he staggered while amid the wheels, and fell the wrong way; the bands caught his little coat, and drew him in, and he was dreadfully mangled.

So it is, boys, when you go in the way of temptation; you may think you can take care of yourselves, and keep clear of the wheels; but oh! you may find yourselves dreadfully mistaken. Before you are aware of it, you may be caught and destroyed. Keep away from the wheels.—*Young Reeper*.

"I Feel it Pull."

A little boy was sitting, at twilight, in the doorway of his parents with both hands extended upward and holding a line.

"What are you doing, my little friend?" said a gentleman passing by.

"Flying my kite, sir," was the prompt reply.

"Flying your kite!" exclaimed the gentleman. "I can see no kite—you can see none."

"I cannot see it, but I know it is there, for I feel it pull."

A few years back said the gentleman, in relating the above circumstance, the angels came and bore far above us, out of our sight, one that was very dear to us all. The attachment of our heart was not broken. The connecting ties were lengthened, not sundered. We loved her while here, we love her still. She loved us while in the flesh. We are sure that she loves us none the less in her new condition. Rising higher and still higher in the heaven of heavens, we feel her influence, and attracted thereby we are tending towards her perfect home with a prospect of a future union there.

DON'T TATTLE.—Children don't talk about each other.—Don't call one of your school mates ugly, another stingy, another cross, behind their backs. Such things are not pretty—they are mean. Even if they are ugly, or stingy or cross, it does you or them no good to say so to another. We should always avoid telling the faults of others; it makes us forget our own—it makes us uncharitable—it makes our souls grow small—it takes the generous blood of kindness out of our hearts. Who would be a tattler? Tell all the good you know of your playmates; but keep their faults to yourself, or tell them in a kindly manner, when you are alone with them.

FOR THE BOYS.—A certain man who is very rich now, was very poor when a boy. When asked how he got his riches, he said: "My father taught me never to play till my work was finished, and never to spend my money till I had earned it. If I had but an hour's work in the day, I must do that the first thing, and in an hour. And after that I was allowed to play; and then I could play with much more pleasure than if I had the thought of an unfinished task before my mind. I early formed the habit of doing everything in time, and it soon became easy to do so. It is to this I owe my prosperity."

AVOID SWEARING.—Nearly every gentlemanly person, although he may himself at times indulge in profanity, utterly condemns it. Boys, never acquire the habit. A true man would rather treat an offence with contempt, than show his indignation by an oath. It is vulgar; altogether too low for a decent man. It is cowardly; no brave man will use vile words. It is ungentlemanly. A gentleman is well bred, and refined. It is offensive to delicacy, and extremely unfit for human ears.

LOVE AND LABOR.—One morning I found little Dora busy at the ironing table, smoothing the towels and stockings. "Isn't it hard work for the little arms?" I asked. A look like sunshine came into her face, as she glanced toward her mother who was rocking the baby. "It isn't hard work when I do it for mother," she said, softly. How true it is that love makes labor sweet!

DOMESTIC ECONOMY.

To Clean Marble.

Marble mantles, hearths, table tops, etc., are easily discolored by coal gas, pitchy smoke from pine kindlings, feuder rust, grease, ink, etc.; and it is surprising how often, otherwise careful housekeepers will neglect such discoloration, until it is too late to remove it, when it becomes a permanent and unseemly disfiguration. Generally such discolorations, if taken in hand at once, may be removed by a little hot soap and water applied with a plenty of elbow-grease. For ink and other stains a little diluted sulphuric acid may be rubbed on with a cloth, and removed with clean water as soon as the stains disappear. Discoloration from coal smoke may be removed in the same manner; but the application should be made as soon as noticed, or the stains will so penetrate the marble, that any attempt to remove it with acid will so disfigure the marble as to deface it worse than the stain. If the discoloration has penetrated to any considerable depth, the only way is to cover it up, which may be done by the application of a thin stucco made of fine marble-dust. This application gives the marble a pure white coating, without any gloss. The gloss may be secured by varnishing the stucco with a solution of soda or water-glass. This last application forms a very good looking and durable covering and may be also used for renovating old or neglected statuettes, etc.

A WOODEN KITCHEN OR DAIRY FLOOR, or a floor for any other room which you do not wish to carpet, but which it is desirable to keep scrupulously clean, may be prepared with as good a surface or polish as marble, by simply coating it with several applications of water-glass. The cracks and crevices should first be filled up, even with the floor surface, by a putty made of water-glass and gypsum. Four coats of the water-glass will form a hard durable coat, not affected by heat, and but little liable to wear. It will moreover look as bright and handsome as marble, and may be even more easily kept clean. If color is desired, it may be added, in the form of mineral paint, to the last application. A floor prepared in this manner will last six or eight years, and the cost is very small, as the silicate of soda, from which the water-glass is made, is very cheap.

Tomato Beer.

A Georgia correspondent of the *Southern Planter* tells how to make tomato beer. He says: "Gather the fruit once a week, stem, wash and mash it; strain through a coarse linen bag, and to every gallon of the juice add a pound of good, moist brown sugar.—Let it stand nine days, and then pour it off from the pulp, which will settle in the bottom of the jar. Bottle it closely, and the longer you keep it the better it is when you want to use it. Take a pitcher that will hold as much as you want to use—for my family I use a gallon pitcher—fill it nearly full of fresh sweetened water, add some of the preparation already described, and a few drops of essence of lemon, and you will find it equal to the best lemonade, costing almost nothing. To every gallon of sweetened water I add a half tumbler of beer."

A REFRESHING BEVERAGE.—Dr. Waller Lewis, in describing the precautions against cholera adopted at the General Post Office, in London, Eng., says: "The men employed in sorting letters and newspapers suffer much from thirst, especially in the hot weather, and consequently drink much water while engaged in their duties. Although the Post Office is supplied with excellent water, much diarrhoea was, nevertheless, the result of this practice. To remedy this the officers, clerks and men of all classes have of late been supplied from the medical department with a most agreeable drink, which not only assuages the thirst, but has, moreover, strong antiseptic and anti-diarrhoea properties. It is called orangeade, and is thus composed: Take of dilute sulphuric acid, concen-

trated infusion of orange peel, each twelve drachms; syrup of orange peel, five fluid ounces. This quantity is added to two imperial gallons of water. A large wine-glassful is taken for a draught, mixed with more or less water, according to taste. The officers drank this with pleasure. It is being consumed in large quantities daily, and I am convinced it will be the means of warding off a great deal of sickness."

How to Green Cucumbers.

There is no way to impart a green color to cucumbers, that would not be injurious to health, except by the use of green leaves, like those from the grape-vine. Possibly sap green, which is a preparation from the juice of buck-thorn berries, would answer the purpose if it could be obtained here. Verdigris can be detected in nearly all the pickles of commerce; but its use is highly objectionable, as it is a poisonous acetate of copper. Pickles may be colored with it if the people place a higher regard on the color of the condiment they eat than on their health. Nearly all the shades of green are produced from some combination of arsenic, but this fact does not prevent the use of them for coloring confectionery. Cannot some one introduce a new fashion in the color of pickles?

NUTS AND CHEESE promote digestion as a general rule; the conditions being that the nuts should be ripe and the cheese old, both to be eaten at the close of dinner; the digestive agent in both is a peculiar oil which has the property of acting chemically on what has been eaten, and thus preparing it for being the more easily appropriated to the purpose of nutrition. Many think that the more solid portions of the nut should not be swallowed. This is an error; those particles of solid matter are not digested, it is true, but they are passed through the system unchanged, and act as a mechanical stimulant to the action of the internal organs, as white mustard-seed swallowed whole are known to do, thus preventing that constipated condition of the system which is so invariably productive of numerous bodily discomforts and dangerous and even fatal forms of disease.

PATCHWORK AND MENTAL CULTIVATION.—We heartily endorse the following from a correspondent of *Hearth and Home*: Farmers' wives have little enough spare time at the most, and any woman who desires to have an intelligent and well informed mind will prefer to spend her leisure hours in trying to get wisdom, instead of wasting them in making patchwork quilts, especially as a clean white spread for the outside covering of a bed, looks nicer, and is in better taste, than all the patchwork quilts in existence.

It is no doubt a good plan for little girls to busy themselves piecing calicoes, but there are very many who have no little girls, and to all such I say, improve your time in reading good books and papers, and cultivating your intellect instead of making "patchwork quilts."

TO WASH WHITE WOOLENS.—Put a kettle of clear soft water on the stove and shave enough soap into it to make a strong suds; let it come to a boil, and pour it over the flannels placed in a tub; let them stand until they are cool enough to handle, and then rub or squeeze slightly and wring out. If they were very dirty, repeat the operation; if not, make a very weak suds, boiling hot, and after it is taken off the fire put in some blueing and proceed as before; then shake well, and hang up to dry. You will find the flannels will not full up and get too small, but will be as soft as when new.

HOW TO KEEP MEAT FRESH.—As farmers are at a distance from meat markets, the following directions for keeping meat may be of use to those that try it: Cut the meat in slices ready to fry. Pack it in a jar in layers, sprinkling with salt and pepper, just enough to make it palatable. Place on the top a thick paper or cloth, with salt half an inch thick. Keep this on all the while. I have kept meat for three weeks in the summer, and the last was as good as the first.—*Rural American*.

TO TAKE GREASE OUT OF CARPETS.—Cover the spots with whiting and let it remain until it becomes saturated with the grease; then scrape it off and cover it with another coat of whiting, and if this does not remove the grease, repeat the application. Three coats of whiting will, in most cases, remove the grease, when it should be brushed off with a clothes brush. So says one who pretends to know.

Domestic Receipts.

LEMON PIE.—One lemon, one cup of sugar, two eggs, three table-spoonfuls of flour, one cup of milk; grate the rind of the lemon; mix the whole together, leaving out the whites of the eggs; pour in the milk last. Bake in a deep plate lined with pastry. Beat the whites of the eggs to a stiff froth; sweeten with four table-spoonfuls of sugar; put it on the top when baked, and return the pies to the oven and brown lightly.

GINGER STIR CAKE.—Three eggs, 1 cup of lard, 3 do molasses, 4 do flour, 2 tea-spoonfuls of saleratus, $\frac{1}{2}$ cup of cold coffee, 1 tablespoon of ginger.

TO TEST SOAP.—The readiest way to find whether soap will injure the delicate skin of women and children is to test it with the tongue. Good soap, in which the caustic alkali is neutralized by thorough combination with the fat, will not have a sharp taste. The soap used in medicine, and the transparent soaps, are neutral and good. Many toilet soaps, and especially the imitation marbled castile soap, so abundant in the trade, contain too much free alkali. They have not been thoroughly boiled, and are very sharp. Do not use them upon delicate skins.

ELDER OINTMENT.—Take a double handful of dried elder flowers separated from the stems, and boil them in one quart of water, until it is reduced to half a pint; then strain it, and add to this strong elder tea, two large spoonfuls of melted lard (fresh), two large spoonfuls of melted mutton tallow, and simmer it until the water is all evaporated. This makes an excellent healing ointment.

A BLACKING PASTE FOR BOOTS.—The *Manufacturer & Builder* says:—A good paste for blacking boots is made from twenty parts tincture boneblack, twenty parts syrup, three parts castor oil, one part sulphuric acid, well mixed. A cheaper prescription is ten parts minced potatoes treated with one part strong sulphuric acid, till the whole mass is a lustrous black, then add four parts of boneblack and two parts of any fat, lard or oil.

TO MAKE GROUND PEA CANDY.—Parch, shell, and beat the peas. Take up the candy before it has boiled as much as in the first receipt, and use more butter; stir while boiling. When poured out, mix in the peas. Almonds and grated cocoanut may be used.

Mechanical Hints.

LUBRICATORS.—Tallow is the best lubricator for wood axletrees, and castor oil for iron. Just enough grease should be applied to the spindle of a wagon to give it a light coating.

RAT AND MICE PROOF HOUSE.—James M. Hartwell, of Colesbrook, N. Y., gives a plan, which he says has proved fully successful.

After the frame of the building is up and boarded, and the partitions for the rooms are made, take some mortar and bricks and lay one or two thicknesses of brick between the lower and upper floors. Then lath and plaster to the floors and put on a narrow mop or washboard, not so high as to have the upper edge come above the bricks, as the rats and mice gnaw in just over or just under the washboards.

IMPROVED PASTE FOR WALL.—A new form of paste for attaching paper hangings to walls, and one which, besides possessing the merit of cheapness has the advantage of preventing the paper from separating or peeling off, is prepared by first softening 18 pounds of finely powdered bole (fatty clay) in water, and then draining off the surplus water from the mass. One and a quarter pounds of glue are next to be boiled into glue water, and the bole and two pounds of gypsum are then stirred in, and the whole mass forced through a sieve by means of a brush. This is afterward diluted with water to the condition of a thin paste or dressing, when it is ready for use. This paste is not only much cheaper than the ordinary floor paste, but it has the advantage of adhering better to whitewashed surfaces, especially to walls that have been coated over several times, and from which the coating has not been carefully removed. In some cases it is advisable, when putting fine paper on old walls, to coat them by means of this paste with a ground paper, and to apply the paper hanging itself to this with the ordinary paste.

THE LARGEST PLANING MILL.—Burlington, Vt., has the largest planing mill in the world. The lumber yard, docks, sheds, mills, etc., of the firm cover an area of nearly fifty acres, and in this area there are about seven miles of plank road. To carry on this establishment from 400 to 500 men and boys are employed.

LIFE THOUGHTS.

TENDERNESS, says a sentimental philosopher, is passion in repose.

DESIRE is a tree in leaf, hope is a tree in flower, and enjoyment is a tree in fruit.

WHAT a pity that common sense, for want of use, should have become uncommon.

EXTERIOR beauty is a recommendation written with such pale ink, that time effaces it.

It often happens that they are the best people whose characters have been most injured by slander, as we often find that to be the sweetest fruit which the birds have been pecking at.

SOME people are afraid of anything like joy in religion. They have none of themselves, and they do not love to see it in others. Their religion is something like the stars—very high, and very clear, but very cold.

Golden Words for the Young.

Peter Cooper, of New York, now eighty years old, and one of the most successful business men in the country, is, as is well known, the founder of the great Institution in New York which bears his name. On the occasion of a recent gathering there of the young men who have enjoyed the advantages of his noble generosity, Mr. Cooper made the following address, every line of which is made up of golden words, which should be read and pondered by every young man in the country:

While yet a child, I learned that the "hand of the diligent maketh rich," and whatever of wealth I have achieved, has been due primarily to habits of patient industry formed at the outset of my career. I soon learned that "waste makes want," and I therefore saved what I earned; and, by taking "stitches in time," guarded against the loss which unavoidably attends upon neglect and want of foresight. It did not take long for me to learn that drunkenness was the parent of the larger portion of the poverty, vice and crime which afflict the American people; and hence, until advancing age seemed to demand moderate stimulants, I carefully avoided alcoholic liquors as the greatest curse of the young, and the most deadly foe to domestic happiness and the public welfare.

Next, I observed that most of the shipwrecks in life were due to debts hastily contracted, and out of proportion to the means of the debtor; hence I always avoided debt, and endeavored to keep some ready money on hand, to avail of a favorable opportunity for its profitable use. With economy and industry it is easy to do this in this favored land, and in my case the result has been that, amid all the financial revulsions through which I have passed, no obligation of mine has ever been a day in arrear. Debt is a slavery which every young man ought to avoid, or if assumed, ought not to endure for one day beyond the shortest time necessary to set him free. Shunning intemperance and debt, and practicing industry, rigid economy and self-denial, it was easy to be honest, and to acquire such knowledge as the opportunities of this city offered in the days of my youth.

I was cheered, comforted, sustained and encouraged by the greatest of human blessings, a diligent, wise, industrious, faithful and affectionate wife, aided by the earnest sympathy and active coöperation of my children, who justly regarded as the richest portion of their inheritance, that portion of my wealth which I desired to consecrate to the public welfare. Hence my last lesson for the young is to marry at the proper age, when, and not before, they can see their way to a decent and comfortable support, and thus fulfill the first law of nature with a high and holy sense of its happiness, and its duties, the greatest and most serious in the path of life. Love and duty I have ever found to be the "pass-words" of all that is true and noble in life, and when they are separated, the fires on the family altar die out, and life loses all its charms, never to be compensated by the false jewels which are often worn in the public gaze.

Reform, to be of any permanent value, must be based upon personal virtue, not force; and it seems to me that the millennium will not be far off when each individual shall set about reforming himself, rather than society, and conforming his life to the great law of loving God and his fellow men.

CALIFORNIA GEOLOGICAL SURVEY.—The London *Saturday Review*, of June 24th, gives a very flattering notice of our State Survey, which we are obliged to condense.

It says: Often as we have noted the important and elaborate works compiled by official authority, at the public expense, whether by State or Federal Government, on subjects which in other countries, and especially in England, are left to the disinterested and unremunerated industry and zeal of individual men of science or of voluntary societies, we do not remember any series equal in its prospective extent, and in promise of value and completeness, to the so-called "Geological Survey of the State of California." That survey, "though called geological, was intended to embrace the natural history and topography of the State, as well as its geology." Conceive such a work undertaken in this country at the public expense, and carried out on a scale of which absolute perfection would appear to be the aim, and exhaustion of materials the only limit, by the co-operation of the ablest men in each branch of knowledge! Of the manner in which the work ordered by the State of California is being executed, we have an example before us. If each department of Natural History is to be completed in the same style, the work will be one of the most perfect, in relation to its limited scope, that the world has seen. * * * The elaborateness of the work, and the pains-taking visible in its execution, are remarkable; and having been submitted to the revision of eminent ornithologists, its accuracy may probably be relied on. This specimen will certainly induce all who see it to watch with interest and curiosity for the other volumes of the series; while the example of Californian liberality may be commended to the consideration of certain highly-placed and influential English "Liberals."

THE TRUMPET FLOWER.—The *Sentinel* describes this flower now in bloom in the garden of Mr. H. Gushce, in Santa Cruz: The *Bignonia* or *Tecoma* (sometimes called the "Trumpet Flower") is a species of elegant tubular plant, consisting of both evergreen and deciduous shrubs and climbers. There are many varieties, mostly climbers. The specimen now blooming is about ten feet high in the center and has a circumference of some thirty feet, although but six years old from the planting. The flowers are pure white, bell-shaped and very fragrant, of lilac odor; each flower is about one foot long, (hanging pendant), and six inches across the mouth, which is shaped like a trumpet—hence the name—with a double floral center of beautiful design. There are about two thousand flowers now in full bloom, many having withered and fallen off, while others are just turning from the pale green to deep white, or in all the various stages of growth from bud to blossom. Mr. R. K. Eastman counted twenty-five full-blown flowers on a stem not any larger than his index finger.

BUCKWHEAT FOR POTATO BUGS.—The *Monroe* (Ohio) *Sentinel* says it has been ascertained by persons in that vicinity that buckwheat flour sprinkled on the vines when the dew is on, will have the effect to make the stupid bug "get up and go off—bag and baggage,"—"it puts their eyes out." It should be put on dry, or the bugs will make pancakes of the flour, and demand syrup to eat on them. The reason given by those who have made the potato bug a study, for buckwheat being so efficacious in destroying these pests, is that the flour coming in contact with the bug and vine forms a combination which is rank poison, and yet harmless to the potato.

An exchange remarks:—"If buckwheat is an effectual remedy as stated above, its use is preferable to anything we have before heard of—being both safe and cheap. Our faith in it, however, is not strong enough to venture much upon it before making a small trial."

HERDERS FOR KERN COUNTY.—According to a written contract, says the *Bulletin*, between a gentleman in Turfiff, Scotland, and Vale & Warner, of the San Francisco Employment Office, there are to be thirty sheep-herders transplanted from the "bonnie hills of Scotland" to our matter-of-fact Kern county. Among them are two or three married couples, who were receiving \$16 per month and boarding themselves, but will receive here \$50 per month and found. They are to pay their own expenses to this country.

HISTORIO FRUIT.—"As the apple tree among the trees of the wood, so is my beloved among the sons. I sat down under his shadow with great delight, and his fruit was sweet to my taste."—Sol. 2: 3.

Eighteenth Annual Fair

OF THE

CALIFORNIA

State Agricultural Society,

To commence on the 18th and end on the 23d of September, 1871, at SACRAMENTO CITY.

OVER \$20,000 APPROPRIATED FOR PREMIUMS!

Liberal SPECIAL PREMIUMS for all worthy articles exhibited, not mentioned in the Schedule. Also, in addition to the Premiums named, the Society will give a GOLD MEDAL to the most Meritorious Exhibition in each of the seven departments.

The Pavilion will be open for the reception of Articles for Exhibition on Friday and Saturday, September 15th and 16th, 1871.

LIST OF PREMIUMS,

Open to all the States and Territories.

FIRST DEPARTMENT.

LIVE STOCK.

HORSES.

In this department the same animal cannot be entered more than once, except in sweepstakes, or as a colt with its sire or dam, as a member of a family. No animal will be allowed to compete for a premium unless free from disease or blemish which can be transmitted to posterity.

CLASS I—THOROUGHBRED HORSES.

In this class none will be permitted to compete but such as furnish a complete pedigree—tracing the entire line of descent to the English parent on the side of both sire and dam. The standard of authority for the pedigree of thoroughbred horses will be the English and American Stud Books.

| | |
|--|------|
| Best stallion, four years old and over..... | \$75 |
| Best stallion, three years old..... | 50 |
| Best stallion, two years old..... | 40 |
| Best stallion, one year old..... | 30 |
| Best colt under one year..... | 20 |
| Best mare, four years old and over, with colt..... | 60 |
| Best mare, four years old and over..... | 50 |
| Best mare, three years old..... | 40 |
| Best mare, two years old..... | 30 |
| Best mare, one year old..... | 25 |
| Best mare colt under one year..... | 20 |

Families.

| | |
|---|-----|
| Best thoroughbred sire, with not less than ten of his colts, all thoroughbred..... | 100 |
| Best thoroughbred dam, with not less than four of her colts, all thoroughbred..... | 60 |
| Best stallion, other than thoroughbred, with not less than ten of his colts, open to all..... | 75 |
| Best dam, other than thoroughbred, with not less than three of her colts..... | 50 |

CLASS II—HORSES OF ALL WORK.

| | |
|--|----|
| Best stallion, four years old and over..... | 40 |
| Best stallion, three years old..... | 30 |
| Best stallion, two years old..... | 20 |
| Best stallion, one year old..... | 15 |
| Best mare, four years old and over, with colt..... | 40 |
| Best mare, four years old and over..... | 30 |
| Best mare, three years old..... | 20 |
| Best mare, two years old..... | 15 |
| Best mare, one year old..... | 10 |

CLASS III—GRADED HORSES.

In this department none will be allowed to compete but such as furnish satisfactory proof of a cross of either sire or dam with thoroughbred.

| | |
|--|------|
| Best stallion, four years old and over..... | \$50 |
| Best stallion, three years old..... | 40 |
| Best stallion, two years old..... | 30 |
| Best stallion, one year old..... | 20 |
| Best mare, four years old and over, with colt..... | 40 |
| Best mare, four years old and over..... | 30 |
| Best mare, three years old..... | 20 |
| Best mare, two years old..... | 15 |
| Best mare, one year old..... | 10 |

CLASS IV—DRAFT HORSES.

| | |
|--|----|
| Best stallion, four years old and over..... | 40 |
| Best stallion, three years old..... | 30 |
| Best stallion, two years old..... | 20 |
| Best stallion, one year old..... | 15 |
| Best mare, four years old and over, with colt..... | 40 |
| Best mare, four years old and over..... | 35 |
| Best mare, three years old..... | 25 |
| Best mare, two years old..... | 20 |
| Best mare, one year old..... | 15 |

CLASS V—ROADSTERS.

| | |
|--|------|
| All animals competing for a premium in this department must be exhibited in harness. | |
| Best stallion, four years old and over..... | \$50 |
| Best stallion, three years old..... | 40 |
| Best stallion, two years old..... | 30 |
| Best stallion, one year old..... | 20 |
| Best mare, four years old and over, with colt..... | 40 |
| Best mare, four years old and over..... | 35 |
| Best mare, three years old..... | 25 |
| Best mare, two years old..... | 20 |
| Best mare, one year old..... | 15 |

CLASS VI—CARRIAGE HORSES.

Best matched span carriage horses, owned and used as such by one person, silver goblet, worth.....

Best double team roadsters, owned and used as such by one person, silver goblet, worth.....

Best Saddle Horse..... Fine Bridle

CLASS VII—SADDLE HORSES.

Free to all except those entered as thoroughbred and graded.

| | |
|---|------|
| Best yearling horse colt..... | \$30 |
| Best sucking horse colt..... | 20 |
| Best yearling mare colt..... | 20 |
| Best sucking mare colt..... | 15 |
| Best exhibit of not less than six colts, owned by one person, of any age or sex, can be entered in other classes when allowed by the general rules..... | 50 |

CLASS VIII—SWEEPSTAKES.

Open to all. In the awards in this department blood will have the preference only when in the examination all other qualifications shall be found equal.

Best stallion of any age, silver pitcher worth..... \$150

Best mare of any age, silver pitcher worth..... 100

CLASS IX—JACKS AND MULES.

| | |
|-----------------------------------|----|
| Best jack..... | 50 |
| Best jennet..... | 40 |
| Best mule two years old..... | 20 |
| Best mule one year old..... | 15 |
| Best mule under one year old..... | 10 |

CATTLE.

CLASS I—DURHAM CATTLE.

| | |
|--|----|
| Best bull, four years old and over..... | 75 |
| Best bull, three years old and over..... | 40 |
| Best bull, two years old and over..... | 30 |
| Best bull, one year old and over..... | 25 |
| Best bull calf..... | 15 |
| Best cow, four years old and over..... | 50 |
| Best cow, three years old and over..... | 40 |
| Best cow, two years old and over..... | 30 |
| Best cow, one year old and over..... | 20 |
| Best heifer calf..... | 15 |

Deana, Herefords, Alderneys, Ayrshires and Holderness—same premiums as for Durhams.

CLASS II—GRADED CATTLE.

| | |
|---|-----|
| Best bull, four years old and over..... | 40 |
| Best bull, three years old and over..... | 30 |
| Best bull, two years old and over..... | 20 |
| Best bull, one year old and over..... | 15 |
| Best bull calf..... | 10 |
| Best cow, four years old and over..... | 30 |
| Best cow, three years old and over..... | 20 |
| Best cow, two years old and over..... | 15 |
| Best cow, one year old and over..... | 10 |
| Best herd of cattle of any one breed, not less than ten, owned by one person..... | 100 |

CLASS III—SWEEPSTAKES.

Best bull of any age or stock, silver pitcher worth..... 100

Best cow of any age or stock, silver pitcher worth..... 75

SHEEP AND GOATS.

CLASS I—STOCK SHEEP AND MUTTON.

| | |
|---|----|
| Best ram two years old and over..... | 20 |
| Best ram under two years..... | 15 |
| Best three ewes two years old and over..... | 15 |
| Best three ewes under two years..... | 10 |

CLASS II—FINE WOOL SHEEP.

| | |
|--|----|
| Best Spanish merino ram two years old and over..... | 30 |
| Best Spanish merino ram under two years..... | 20 |
| Best three Spanish merino ram lambs..... | 20 |
| Best three Spanish merino ewes two years old and over..... | 20 |
| Best three Spanish merino ewes under two years..... | 20 |
| Best five Spanish merino ewe lambs..... | 20 |
| Best French merino—same premiums as for Spanish. | |
| Best Cotswold and Leicestershire—same premiums. | |
| Cross between any two thoroughbreds, same premiums as for Spanish. | |

CLASS III—GRADE OR CROSS WITH SPANISH MERINO.

In this class a statement must be filed with the Committee, of the degree of the cross and the breed of the sheep crossed with.

| | |
|---|------|
| Best ram two years old and over..... | \$20 |
| Best ram under two years..... | 15 |
| Best three ram lambs..... | 20 |
| Best three ewes two years old and over..... | 15 |
| Best three ewes under two years..... | 15 |
| Best five ewe lambs..... | 15 |
| Best grade or cross with French merino—same premiums as for Spanish. | |
| Best cross with Cotswold and Leicestershire—same premiums as for Spanish. | |

CLASS IV—SWEEPSTAKES ON SHEEP.

| | |
|---|------|
| Best buck of any age or breed, silver goblet..... | \$30 |
| Best ewe of any age or breed, silver goblet..... | 25 |
| Best pen of not less than five ewes of any age or breed, silver goblet..... | 30 |

CLASS V—CASHMERE AND ANGORA GOATS.

| | |
|-----------------------------------|------|
| Best thoroughbred buck..... | \$30 |
| Best thoroughbred she goat..... | 20 |
| Best thoroughbred three kids..... | 20 |
| Best graded lot of three..... | 15 |

Swine.

CLASS I—LARGE BREEDS, WHICH, WHEN FAT, WILL WEIGH AT MATURE AGE OVER 300 POUNDS.

| | |
|--|------|
| Best boar two years old and over..... | \$30 |
| Best boar under two years old..... | 20 |
| Best boar six months old and less than one year..... | 10 |
| Best breeding sow two years old and over..... | 25 |
| Best breeding sow one year old..... | 15 |
| Best sow six months old and under one year..... | 10 |
| Best lot of not less than six pigs, not less than five nor more than ten months old..... | 20 |

POULTRY.

CLASS I.

| | |
|---|-----|
| Best lot of white or gray Dorkings..... | \$5 |
| Best lot of black Spanish..... | 5 |
| Best lot of black Poland..... | 5 |
| Best lot of Jersey Blues..... | 5 |
| Best lot of Sumatra game..... | 5 |
| Best lot of English game..... | 5 |
| Best lot of light Bantams..... | 5 |
| Best lot of any other distinct variety..... | 5 |
| Best lot of turkeys..... | 5 |
| Best lot of ducks, any good variety..... | 5 |
| Best lot of geese..... | 5 |
| Best lot of Guinea fowls..... | 5 |

SECOND DEPARTMENT.

Machinery, Implements, Etc.

Models in Classes I, II, III and IV cannot compete with full sized machines, as far as practicable, to be exhibited in motion.

All articles named in Classes I, II, III, IV, V, VI and VII of this Department, if of California manufacture, will receive the premium offered and diploma; if not, they will be awarded a diploma only.

CLASS I—MACHINERY, ENGINES, ETC.

| | |
|---|------|
| Best display of general machinery from one shop..... | \$50 |
| Best portable prospecting mill for reducing quartz..... | 25 |
| Best machine for saving quartz and phosphates..... | 25 |
| Best concentrator for copper ores..... | 25 |
| Best grinding and amalgamating pan combined..... | 25 |
| Best turbine wheel (Cal. manufacture)..... | 25 |
| Best quartz crusher (Cal. manufacture)..... | 25 |
| Best steam engine (Cal. manufacture)..... | 50 |
| Best portable steam engine (Cal. manufacture)..... | 25 |
| Best portable sawmill..... | 20 |
| Best saw gummer..... | 2 |
| Best self-setting sawmill head block..... | 5 |
| Best stave machine..... | 5 |
| Best shingle machine..... | 5 |
| Best lathe machine..... | 5 |
| Best hoop machine..... | 5 |
| Best molding machine..... | 5 |
| Best mortising machine..... | 5 |
| Best scab machine..... | 5 |
| Best tenoning machine..... | 5 |
| Best scroll sawing machine..... | 5 |
| Best wood turning lathe..... | 5 |
| Best iron turning lathe..... | 5 |
| Best iron planing machine..... | 10 |
| Best wood planing machine..... | 10 |
| Best water wheel..... | 10 |

CLASS II—AGRICULTURAL MACHINES (FIRST DIVISION).

| | |
|---|-------------|
| Best display of agricultural machinery by any one house (Cal. manufacture)..... | \$50 |
| Best threshing machine..... | Fr. diploma |
| Best sweep horse power (Cal. manufacture)..... | 10 |
| Best endless chain, horse power (Cal. manufacture)..... | 10 |
| Best threshing machine, operated by endless chain power..... | 10 |
| Best circular sawmill, operated by horse power..... | 10 |
| Best log crosscut sawmill, horse power..... | 10 |
| Best clover huller and cleaner..... | 5 |
| Best clover huller..... | 5 |
| Best pump and flax dressing machine..... | 10 |
| Best cider mill and press..... | 10 |
| Best horse hay rake..... | 10 |
| Best hay and straw cutter..... | 5 |
| Best hay press..... | 20 |

| | |
|------------------------------|---|
| Best power corn sheller..... | 5 |
| Best hand corn sheller..... | 5 |

If possible, the Board will manage to have a grand trial of reaping and threshing machines, to come off during the Fair, and will give special premiums for the same.

CLASS III—AGRICULTURAL MACHINES (SECOND DIVISION).

| | |
|--|------|
| Best header (Cal. manufacture)..... | \$50 |
| Best wheat drill (two horse)..... | 10 |
| Best wheat drill (one horse)..... | 5 |
| Best grain broadcast sowing machine..... | 10 |
| Best machine for cutting and shocking corn..... | 5 |
| Best clover seed harvester..... | 5 |
| Best self-raking and reaping machine..... | 10 |
| Best reaping machine..... | 10 |
| Best mowing machine..... | 10 |
| Best combined reaper and mower..... | 20 |
| Best display of reaping and mowing machine knives..... | 5 |
| Best hay pitching machine..... | 5 |
| Best corn planter (horse power)..... | 5 |
| Best corn planter (hand)..... | 2 |
| Best potato planter..... | 5 |
| Best potato digger..... | 5 |
| Best field roller and crusher..... | 10 |
| Best burrow..... | 5 |
| Best one-horse corn cultivator..... | 5 |
| Best two-horse corn cultivator..... | 10 |
| Best horse hoe..... | 5 |
| Best double shovel plow..... | 5 |

CLASS IV—AGRICULTURAL MACHINES (THIRD DIVISION).

| | |
|--|------|
| Best snut machine..... | \$10 |
| Best farm feed mill..... | 10 |
| Best fanning mill..... | 5 |
| Best flour packing machine..... | 5 |
| Best self-regulating windmill..... | 15 |
| Best stock scales for general purposes, to be set up by exhibitor, and he used by the Board during the Fair, free of charge..... | 25 |
| Best platform scales..... | 5 |
| Best stump extractor..... | 10 |
| Best brick machine..... | 10 |
| Best drain tile machine..... | 10 |
| Best farm gate..... | 15 |
| Best beehive (without bees)..... | 5 |
| Best refrigerator..... | 5 |
| Best agricultural boiler..... | 5 |
| Best portable fence..... | 20 |
| Best ornamental fence..... | 10 |
| Best economical fence for tile land..... | 25 |

CLASS V—TOOLS AND HOUSEHOLD IMPLEMENTS

| | |
|---|---------------|
| Best display of haying and barvesting tools..... | \$20 |
| Best set of draining tools..... | 5 |
| Best farm road scraper..... | 2 |
| Best garden seed drill..... | 2 |
| Best cheese press..... | 10 |
| Best cheese vat, with heater attached..... | 10 |
| Best cheese shelf model..... | 5 |
| Best churn..... | 10 |
| Best butter worker..... | 5 |
| Best cabbage cutter..... | 2 |
| Best sausage meat cutter and stuffer..... | 5 |
| Best washing machine..... | Diploma and 5 |
| Best clothes wringer..... | Diploma |
| Best mangle or ironing machine..... | 5 |
| Best clothes horse, to occupy the least space..... | 5 |
| Best well pump..... | 10 |
| Best apparatus for raising water for irrigating purposes..... | 20 |
| Best apparatus for raising water for milking purposes..... | 20 |

CLASS VI—PLOWS.

Best steam plow, to be tested to the satisfaction of the Committee, and its utility fully demonstrated..... \$200

| | |
|---------------------------------------|----|
| Best two-gang plow..... | 40 |
| Best plow for general purposes..... | 10 |
| Best stubble plow..... | 10 |
| Best sod plow..... | 10 |
| Best steel plow..... | 10 |
| Best cast iron plow..... | 10 |
| Best subsoil plow..... | 10 |
| Best sidehill plow..... | 5 |
| Best one horse plow..... | 5 |
| Best mole or blind ditching plow..... | 10 |
| Best open ditching plow..... | 10 |
| Best dynamometer..... | 10 |

The Board will furnish to exhibitors suitable grounds for practically testing their plows, under the direction of the Awarding Committee.

CLASS VII—VEHICLES.

| | |
|---|------------------|
| Best two-horse family carriage..... | Diploma and \$30 |
| Best one-horse family carriage..... | Diploma and 25 |
| Best top buggy..... | Diploma and 20 |
| Best trotting wagon..... | Diploma and 15 |
| Best farm wagon for general purposes..... | 15 |
| Best spring market wagon..... | 15 |
| Best cart..... | 5 |
| Best street goods wagon..... | 5 |
| Best wagon or carriage brake..... | 5 |
| Best jackscrow..... | 5 |
| Best carriage or cab for children..... | 5 |
| Best display of carriage wheels, hubs, etc..... | 10 |

THIRD DEPARTMENT.

TEXTILE FABRICS—MILL AND DOMESTIC PRODUCTS.

Textile Fabrics and Materials of which they are Made.

Articles to be exhibited by manufacturer, and articles which heretofore have received a premium, to be excluded from competition, except in Class VI.

CLASS I—FABRICS MADE FROM CALIFORNIA SILK.

| | |
|---|------|
| Best specimen of silk manufactured, not less than five yards..... | \$20 |
| Best pound reel silk, made in family..... | 10 |
| Best pound sewing silk, made in family..... | 10 |
| Best specimen of raw silk goods..... | 10 |
| Best pair of silk stockings..... | 10 |
| Best pair of silk gloves..... | 10 |
| Best silk shawl..... | 20 |
| Best silk cravat..... | 10 |
| Best piece of pocket handkerchiefs..... | 10 |

| | |
|---|----|
| Best fancy chair cushion and back. | 5 |
| Best woolen shawl. | 5 |
| Best crocheted shawl. | 5 |
| Best worked shawl. | 5 |
| Best lace cape. | 3 |
| Best lampstand mat. | 3 |
| Best ornamental needlework. | 5 |
| Best silk embroidery. | 5 |
| Best embroidered sofa cushion. | 5 |
| Best embroidered mantilla. | 5 |
| Best embroidered table spread. | 5 |
| Best embroidered dressing gown. | 5 |
| Best embroidered lady's robe. | 5 |
| Best embroidered children's clothes. | 5 |
| Best embroidered undersleeves. | 5 |
| Best embroidered lady's collar. | 5 |
| Best embroidered handkerchief. | 5 |
| Best chenille embroidery. | 5 |
| Best embroidery with beads. | 5 |
| Best tatting collar. | 5 |
| Best worked collar. | 5 |
| Best worked veil. | 5 |
| Best worked handkerchief. | 5 |
| Best silk bonnet. | 5 |
| Best velvet bonnet. | 5 |
| Best knit cloak. | 5 |
| Best exhibit of men's clothing. | 10 |
| Best exhibit of boys' clothing. | 5 |
| Best exhibit of men's hats and caps. | 5 |
| Best collection of furs. | 10 |
| Best assortment leather gloves and mittens. | 5 |
| Best variety of linen embroidery. | 10 |
| Best group of artificial flowers. | 10 |
| Best variety of artificial flowers. | 5 |
| Best specimen of wax flowers. | 5 |
| Best group of wax flowers. | 5 |
| Best specimen of wax fruit. | 5 |
| Best and largest variety of wax fruit. | 5 |
| Best specimen of moss or lichen work. | 5 |
| Best specimen cone work. | 5 |
| Best specimen leaf work. | 5 |
| Best specimen flower work. | 5 |
| Best specimen shell work. | 5 |
| Best braid of straw or grass. | 5 |
| Best specimen of braid work. | 5 |
| Best embroidered picture. | 10 |
| Best white quilt. | 5 |
| Best worked quilt. | 5 |
| Best silk quilt. | 5 |
| Best patchwork quilt. | 5 |
| Best children's Afghan. | 5 |
| Best display of millinery. | 20 |

CLASS IV—HOUSEHOLD FABRICS.
No article manufactured in factories or out of the family will be received in this class. Exhibitors must accompany their articles with a certificate of manufacture in the family within the year.

| | |
|--|------|
| Best ten yards jean. | \$10 |
| Best pair woolen blankets. | 10 |
| Best ten yards flannel. | 10 |
| Best woolen carpet, fifteen yards. | 10 |
| Best ten yards linen. | 10 |
| Best ten yards linen diaper. | 10 |
| Best ten yards kersey. | 10 |
| Best pair kersey blankets. | 10 |
| Best rag carpet, fifteen yards. | 10 |
| Best fifteen yards of tow cloth. | 5 |
| Best hearth rug. | 5 |
| Best double carpet coverlet. | 5 |
| Best pair woolen knit stockings. | 3 |
| Best pair of cotton knit stockings. | 3 |
| Best pair by misses under twelve years of age. | 5 |
| Best pound of linen sewing thread. | 3 |
| Best pair of woolen fringe mittens. | 3 |
| Best pair of woolen mittens. | 3 |
| Best pair by misses under twelve years of age. | 5 |
| Best pair of woolen stockings by misses under twelve years of age. | 5 |
| Best linen handkerchiefs. | 5 |
| Best netting. | 5 |
| Best worked knit stockings. | 3 |
| Best stocking yarn. | 3 |
| Best woolen shawl. | 5 |
| Best mill bag. | 5 |
| Best woolen knit drawers. | 5 |
| Best woolen knit shirt. | 5 |
| Best foot mats. | 5 |
| Best straw hat. | 5 |
| Best straw bonnet. | 5 |
| Best grass bonnet. | 5 |
| Best grass hat. | 5 |
| Best gentleman's shirt. | 5 |
| Best knit bedspread. | 5 |
| Best wove bedspread. | 5 |
| Best ten pounds dressed flax. | 10 |
| Best five pounds flax cotton. | 10 |
| Best five pounds flax yarn. | 5 |

Articles exhibited by misses under ten years of age, entrance free.

CLASS V—SADDLERS' AND SHOEMAKERS' WARE AND MISCELLANEOUS ARTICLES.

| | |
|---|------|
| Best traveling trunk. | \$10 |
| Best carpet sack. | 5 |
| Best set of carriage harness. | 10 |
| Best set of farm harness. | 10 |
| Best display of leather. | 10 |
| Best display of saddles and bridles. | 10 |
| Best display of harness. | 3 |
| Best display of saddletrees. | 3 |
| Best display of brushes. | 3 |
| Best display of shoe lasts, pegs and lasting machine. | 5 |
| Best pair of dress boots. | 5 |
| Best pair of heavy boots. | 5 |
| Best pair of gent's dress shoes. | 5 |
| Best pair of Congress gaiters. | 5 |
| Best pair of ladies' gaiters. | 3 |
| Best pair of ladies' slippers. | 3 |
| Best pair of boots. | 3 |
| Best display of bound account books. | 5 |
| Best display of paper. | 5 |
| Best display of paper hangings and borders. | 5 |
| Best silk hat. | 5 |
| Best soft hat. | 5 |
| Best made suit of gentleman's clothing. | 10 |
| Best display of printing. | 10 |
| Best display of gloves and mittens. | 3 |
| Best display of ladies' furs. | 10 |

FOURTH DEPARTMENT.

MECHANICAL PRODUCTS.

All products of industry competing for premiums are to be exhibited by or for the maker or improver or inventor.

CLASS I—WORKED METALS.

| | |
|--|------------------|
| Best display of copper work. | Diploma and \$20 |
| Best display of brass work. | Diploma and 20 |
| Best display of axes. | 5 |
| Best display of locks. | 5 |
| Best display of door trimmings. | 5 |
| Best display of window trimmings. | 5 |
| Best display of window blind or shutter trimmings. | 5 |
| Best display of saddlers' hardware. | 5 |
| Best display of horseshoes. | 5 |
| Best display of horseshoe nails. | 5 |
| Best display of plumbers' goods and ware. | Diploma and 10 |
| Best display of gas chandeliers and burners. | Diploma and 10 |
| Best display of lamps. | 10 |
| Best display of general hardware. | 10 |
| Best display of iron and steel. | 5 |
| Best display of iron fencing including post. | 10 |
| Best display of mechanics' tools. | 10 |
| Best display of table cutlery. | 5 |
| Best display of pocket cutlery. | 5 |

| | |
|--|----|
| Best display of silver ware. | 10 |
| Best display of Britannia ware. | 5 |
| Best display of clocks. | 10 |
| Best display of kitchen utensils of brass or copper. | 10 |
| Best display of kitchen utensils of tin. | 5 |
| Best circular saws. | 5 |
| Best mill saws. | 5 |
| Best hand saws. | 5 |
| Best display of files. | 5 |
| Best burglar and fireproof safe. | 20 |
| Best collection of California marble. | 25 |

CLASS II—STOVES, CASTINGS, ETC.

| | |
|---|------|
| Best cooking stove for wood. | \$ 5 |
| Best cooking stove for coal. | 5 |
| Best parlor stove. | 5 |
| Best warming furnace or other furnace. | 5 |
| Best cooking range. | 10 |
| Best parlor grate. | 3 |
| Best pair ornamental iron vases. | 3 |
| Best specimen of marbled iron. | 3 |
| Best specimen of marbled stone. | 5 |
| Best specimen of marbled wood. | 5 |
| Best display of hollow iron ware. | 5 |
| Best ornamental statuary. | 5 |
| Best ornamental fruit and flower stand. | 5 |
| Best church bell. | 20 |
| Best farm bell. | 5 |
| Best chime of bells. | 5 |

CLASS III—MUSICAL INSTRUMENTS, CABINET WARE—CALIFORNIA MANUFACTURE.

| | |
|--------------------------------------|------|
| Best grand or semi-grand pianoforte. | \$20 |
| Best boudoir piano. | 20 |
| Best square piano. | 20 |
| Best parlor piano. | 10 |
| Best dressing bureau. | 10 |
| Best sofa. | 10 |
| Best lounge. | 5 |
| Best extension table. | 5 |
| Best office chair. | 5 |
| Best set of parlor chairs. | 10 |
| Best center table. | 5 |
| Best pair of side tables. | 5 |
| Best set of parlor furniture. | 20 |
| Best display of furniture. | 20 |
| Best display of mattresses. | 5 |
| Best seats and desks for schools. | 5 |
| Best writing desk. | 5 |
| Best book case. | 5 |
| Best wardrobe. | 10 |
| Best sick chair or couch. | 5 |

CLASS IV—WOODEN WARE.

| | |
|--|------|
| Best display of cedar ware. | \$ 5 |
| Best display of pine ware. | 5 |
| Best display of oak ware. | 5 |
| Best display of window shades. | 5 |
| Best display of window blinds. | 5 |
| Best display of willow ware. | 10 |
| Best display of splitwood baskets. | 5 |
| Best display of pine, oak or walnut doors. | 10 |
| Best display of floor, park and tight barrels. | 10 |
| Best display of turning-lathe work. | 5 |
| Best display of osier willow. | 5 |
| Best wine cask. | 10 |
| Best display of wooden ware. | 50 |

CLASS V—PHILOSOPHICAL, SURGICAL, DENTAL, DRAWING, PAINTING, SURVEYING AND LEVELLING INSTRUMENTS AND APPARATUS, ETC., OF FINE WORKMANSHIP, EXHIBITED BY MAKER—AMERICAN MANUFACTURE.

| | |
|---|---------|
| Best surgical instruments. | Diploma |
| Best set optical instruments. | Diploma |
| Best dentist's instruments. | Diploma |
| Best set of mathematical and philosophical instruments. | Diploma |
| Best specimens dentistry. | Diploma |
| Best theodolite. | Diploma |
| Best level. | Diploma |
| Best surveyor's compass. | Diploma |
| Best achromatic telescope. | Diploma |
| Best reflecting telescope. | Diploma |
| Best optical apparatus. | Diploma |
| Best balance. | Diploma |
| Best thermometer. | Diploma |
| Best barometer. | Diploma |
| Best electro-magnetic apparatus. | Diploma |
| Best electric telegraph. | Diploma |
| Best electric machine. | Diploma |
| Best galvanic battery and apparatus. | Diploma |
| Best set drawing instruments. | Diploma |
| Best chronometer. | Diploma |
| Best clock (eight day). | Diploma |
| Best specimen silverware, with agricultural designs, suitable for premiums. | Diploma |
| Best specimen Argentine or Britannia ware. | Diploma |
| Best turned and cast Britannia. | Diploma |

CLASS VI—CHEMICALS.

| | |
|---|--------------|
| Best ivory black. | \$ 5 |
| Best Prussian blue. | 5 |
| Best copal varnish. | 5 |
| Best glue. | 5 |
| Best prussiate of potash. | 5 |
| Best linseed oil (5 gallons). | 10 |
| Best white lead. | 5 |
| Best display of soap (California make). | Silver Medal |
| Best specimen of lard oil. | 5 |
| Best five gallons of castor oil. | 10 |
| Best display of potash, saleratus, pearl ash and other alkalis. | 5 |
| Best display of writing fluid. | 2 |
| Best display of blacking. | 3 |
| Best display of lubricating petroleum. | 5 |
| Best display of illuminating petroleum. | 5 |

CLASS VII—GLASS, CROCKERY, STONEWARE, BRICKS AND TILES—AMERICAN MANUFACTURE.

| | |
|---|--------------|
| Best specimen Rockingham ware. | Diploma |
| Best stoneware. | Diploma |
| Best specimen ground glass. | Diploma |
| Best specimen stained glass. | Diploma |
| Best water pipe of water lime. | Diploma |
| Best sample drain tile. | 5 |
| Best roofing tiles. | 5 |
| Best flooring. | 5 |
| Best looking glass. | Diploma |
| Best plate glass. | Diploma |
| Best window glass. | Diploma |
| Best flint glass. | Diploma |
| Best bottle glass. | Diploma |
| Best bottles, green glass. | Diploma |
| Best tinware and other stoppered bottles and vials. | Diploma |
| Best retorts and receivers, tubulated and plain. | Diploma |
| Best demijohns. | Diploma |
| Best earboys. | Diploma |
| Best terra cotta. | Diploma |
| Best fire bricks. | \$3 |
| Best pressed brick. | Diploma |
| Best pottery, various kinds. | Silver Medal |
| Best display of stoneware. | \$10 |
| Best display of glassware. | 10 |
| Best display of queensware. | 5 |
| Best dressed stone. | 5 |
| Best mill stone. | 5 |
| Best marble of California. | 10 |
| Best barrel common salt. | 3 |
| Best sack table salt. | 3 |
| Best barrel lime. | 5 |
| Best hydraulic cement. | 5 |

CLASS VIII—MINERALS, FOSSILS, BIRDS, FISHES, ETC.

| | |
|--|------|
| Best set of useful minerals of California, including coals of California, iron ores of California, limestones of California, marbles of California, sandstones of California, marls of California, peats of California, soils of California, salt waters of California, minerals of California, potter's clay of California, fire clay of California, burr stones of California, gypsum of California. | \$20 |
| For the following articles, such awards as the Board shall deem best, on the recommendation of the Committee, will be made: | |

| | |
|--|--|
| Best collection of minerals illustrating the geology of California. | |
| Best collection illustrating the ornithology of California. | |
| Best collection of natural fishes, living or dead. | |
| Best snit of crystallized minerals of California. | |
| Best snit of crystallized minerals from all parts of the world. | |
| Best snit of fossils of California. | |
| Best snit of the vegetable kingdom, including the woods and most useful plants and native grasses of California. | |
| Best snit of the animal kingdom, including insects injurious to the farmer. | |

FIFTH DEPARTMENT.

AGRICULTURAL PRODUCTS.

Farm Products, Food, Condiments, Etc.

CLASS I—SILK.

| | |
|---|------|
| Best exhibition of the silk business, from the mulberry tree to the silk cocoon, including the feeding of the worms, their eggs, etc. | \$50 |
| For the greatest number of useful forest trees planted in permanent plantation during the year. | 50 |

CLASS II—FLOUR AND GRAIN.

All parties desiring to compete for premiums on flour, wheat or barley, and who will send the required samples to be exhibited to J. W. H. Campbell, San Francisco, or to H. G. Smith, Sacramento, will be paid the market price for the flour or grain, and the same will be properly labeled with the producer's name and be exhibited for him; and also, will be paid any premiums awarded to the same. The object of this arrangement is to secure a good exhibition and to save trouble to the producer.

| | |
|--|--------------|
| Best sack wheat flour (California manufactured and California wheat). | Silver Medal |
| Best two bushels of wheat of the Chile variety. | \$10 |
| Best two bushels of wheat of the Australian variety. | 10 |
| Best two bushels of the Club variety. | 10 |
| Best two bushels of any other variety. | 10 |
| The premium wheat to become the property of the State Board of Agriculture. | |
| Best sample of rye, not less than two bushels. | 10 |
| Best sample of oats, not less than two bushels. | 5 |
| Best sample of barley, not less than two bushels. | 5 |
| Best sample of buckwheat, not less than one-half bushel. | 5 |
| Best sample of flax seed, not less than one-half bushel. | 5 |
| Best sample of hops, not less than twenty-five pounds. | 5 |
| Best sample of timothy, not less than one-half bushel. | 5 |
| Best sample of clover seed, not less than one-half bushel. | 5 |
| Best sample of blue grass seed, not less than one-half bushel. | 5 |
| Best sample of red top seed, not less than one-half bushel. | 5 |
| Best sample of orchard grass seed, not less than one-half bushel. | 5 |
| Best bushel yellow corn. | 5 |
| Best bushel white corn. | 5 |
| Best bushel early corn. | 5 |
| Best exhibit garden seeds of California production, not less than twenty-five varieties. | 10 |

Evidence must be presented showing that the grain, vegetables and products have been grown by the exhibitor.

CLASS III—CHEESE (DOMESTIC MANUFACTURE).

| | |
|------------------------------------|------|
| Best cheese one year old and over. | \$15 |
| Best cheese under one year old. | 10 |

CLASS IV—CHEESE (FACTORY MADE).

| | |
|------------------------------------|------|
| Best cheese one year old and over. | \$15 |
| Best cheese under one year old. | 10 |

CLASS V—SWEEPSTAKES ON CHEESE.

For the best and largest display of cheese.

CLASS V—BUTTER, BREAD, ETC.

| | |
|--|------|
| Best lot ten pounds of butter, in rolls. | \$10 |
| Best tub of firkin, not less than twenty-five pounds, at least three months old. | 15 |
| Best four loaves of baker's bread not less than forty-eight hours old. | 3 |
| Best pilot bread. | 2 |
| Best biscuit. | 2 |
| Best soda biscuit. | 2 |
| Best crackers, butter. | 2 |
| Best crackers, sweet. | 2 |
| Best crackers, Boston. | 2 |
| Best domestic corn bread. | 5 |
| Best domestic rye bread. | 5 |
| Best domestic brown bread. | 5 |
| Best domestic wheat bread. | 5 |

CLASS VII—HONEY, PRESERVES, PICKLES, ETC.

| | |
|---|---------|
| Best ten pounds honey. | \$5 |
| Best canned tomatoes. | 3 |
| Best canned blackberries. | 3 |
| Best canned raspberries. | 3 |
| Best canned peaches. | 3 |
| Best canned pears. | 3 |
| Best canned apples. | 3 |
| Best canned quinces. | 3 |
| Best canned cherries. | 3 |
| Best canned gooseberries. | 3 |
| Best canned currants. | 3 |
| Best canned grapes. | 3 |
| Largest and best variety of canned fruits. | Diploma |
| Largest and best variety of canned jellies. | Diploma |
| Largest and best variety of canned preserves. | Diploma |
| Best apple jelly. | \$3 |
| Best currant jelly. | 3 |
| Best peach jelly. | 3 |
| Best quince jelly. | 3 |
| Best preserved quinces. | 3 |
| Best preserved peaches. | 3 |
| Best preserved pears. | 3 |
| Best preserved apples. | 3 |
| Best preserved plums. | 3 |
| Best tomato catsup. | 3 |
| Best cucumber catsup. | 3 |
| Best pickled cucumbers. | 3 |
| Best pickled peaches. | 3 |
| Best pickled tomatoes. | 3 |
| Best pickled walnuts. | 3 |
| Best pickled mangoes and melons. | 3 |
| Best pickled onions. | 3 |
| Best pickled gerkins. | 3 |
| Best specimen of concentrated vegetables. | 3 |
| Best specimen of concentrated milk. | 3 |

CLASS VIII—WINES, SUGARS, SYRUP AND BRANDY.

| | |
|---|------|
| Best white still wine, four years old. | \$10 |
| Best white still wine, three years old. | 10 |
| Best white still wine, two years old. | 10 |
| Best white still wine, one year old. | 10 |
| Red wines—same premiums as white wines. | |
| White sparkling wines—same premiums as white still wines. | |
| Best port wine. | 10 |
| Best claret wine. | 10 |
| Best sherry wine. | 10 |
| Best exhibit of wines from foreign grapes. | 20 |
| Best exhibit of wines from native grapes. | 20 |
| Best brandy made from grapes, one year old. | 10 |
| Best brandy made from grapes, two years old. | 15 |
| Best brandy made from grapes, three years old and over. | 25 |
| Best brandy made from peaches. | 15 |
| All wines and brandy must be the product of the exhibitors. | |
| Best one hundred pounds of sugar made from sugar beet. | \$20 |
| Best one hundred pounds of sugar made from Chinese cane. | 20 |

| | |
|--|----|
| Best one hundred pounds sugar made from melons. | 20 |
| Best five gallons syrup from either of the above named articles. | 10 |

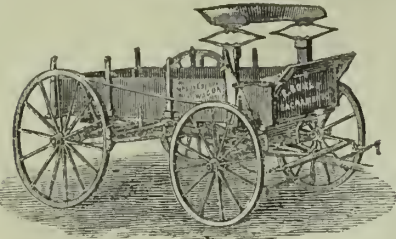
CLASS IX—VEGETABLES, ROOTS, ETC.

| | |
|--|-----|
| All articles in this class are to be raised by the exhibitor. | |
| Best half bushel red potatoes. | \$5 |
| Best half bushel white potatoes. | 5 |
| Best half bushel of any other variety. | 5 |
| Best and greatest variety of Irish potatoes, half peck of each variety. | 10 |
| Best half bushel sweet potatoes. | 5 |
| Best twelve parsnips. | 3 |
| Best twelve carrots. | 3 |
| Best six long blood beets. | 3 |
| Best six turnip beets. | 3 |
| Best display of beets in variety and quality. | 5 |
| Best peck of tomatoes. | 5 |
| Best display of tomatoes, variety and quality. | 5 |
| Best six drumhead cabbages. | 3 |
| Best six heads of red Dutch cabbage. | 3 |
| Best six heads of any other variety. | 3 |
| Best three heads of cauliflower. | 3 |
| Best three heads of broccoli. | 3 |
| Best six heads of lettuce. | 2 |
| Best half peck of red onions. | 3 |
| Best half peck of yellow onions. | 3 |
| Best half peck of white onions. | 3 |
| Best display of onions in variety and quality. | 5 |
| Best half peck of peppers for pickling. | 3 |
| Best display of peppers in variety and quality. | 3 |
| Best twelve roots of salsify. | 3 |
| Best six stalks of celery. | 3 |
| Best six marrow squashes. | 3 |
| Best six Hubbard squashes. | 3 |
| Best six crookneck squashes. | 3 |
| Best display of squashes, variety and quality. | 10 |
| Best and largest pumpkin. | 5 |
| Best display of pumpkins, variety and quality. | 5 |
| Best dozen of sweet corn, green. | 3 |
| Best display of sweet corn in variety and quality, green or dry. | 5 |
| Best three mountain sweet watermelons. | 3 |
| Best three watermelons of any other variety. | 3 |
| Best three green-fleshed muskmelons. | 3 |
| Best three yellow-fleshed muskmelons. | 3 |
| Best and greatest display of melons of all varieties, both watermelons and muskmelons. | 10 |
| Best six cucumbers. | 2 |
| Best half peck Lima beans, in pod. | 3 |
| Best half peck white beans, dry. | 2 |
| Best half peck kidney bush beans, in pod. | 3 |
| Best half peck pole beans, other than Lima, in pod. | 2 |
| Best half peck held peas, dry. | 2 |
| Best half peck garden peas, dry. | 3 |
| Best half peck castor oil beans. | 5 |
| Best and greatest variety of peas, dry. | 5 |
| Best half peck gerkin cucumbers. | 3 |
| Best three purple egg plants. | 5 |
| Best and greatest variety of vegetables raised by one exhibitor. | 50 |

CLASS X—FLOWERS.

| | |
|-------------------------------|------|
| Best miniature flower garden. | \$50 |
| Best display growing flowers. | 25 |
| Best display cut flowers. | 25 |

SIXTH DEPARTMENT.



FIRST PREMIUM AWARDED at the State Fair, 1870, for the best Farm Wagon; also for the best improved Thimble Skein. All kinds of Wagons on hand and made to order, of the Best Eastern Material, and Warranted to give satisfaction.

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IMPORTERS OF

Hardware, Farming Implements,
MACHINES, ETC.



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Are Sole Agents for

EXCELSIOR MOWER AND REAPER,
CHAMPION MOWER AND REAPER,
BURKE'S EAGLE MOWER AND REAPER,
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With a full stock of all kinds of implements needed in Farming.

Send for List of Prices.



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13, 15, 17 and 19 Front Street, SAN FRANCISCO.
17-v1-3m

EGGS! EGGS! EGGS! STEVENS BROS' Patent Egg Boxes.

We would respectfully call the attention of all persons who ship or handle Eggs, to the advantage to be derived from using Stevens' Bros. Patent Egg Cases.

These cases hold thirty dozen Eggs each, self counting, and can be packed with ease and facility. Eggs shipped in the above cases sell quicker and give more satisfaction to buyers than any other package in use, as the contents are not damaged, and buyers subjected to no trouble as regards the count.

NO BROKEN EGGS! NO HEATED EGGS!
NO PACKING REQUIRED!

To the Trade.

We offer these Egg Cases at the following rates:
SCALE OF PRICES:

100 cases or over, cash price..... \$3 00 each
50 cases or under, cash price..... 3 50 each
CAUTION!

STEVENS' PATENT Egg Boxes, patented Feb. 26, 1867.

All persons are hereby cautioned against manufacturing, selling and using any cases for packing and transporting eggs, constructed with compartments, by placing a separate diaphragm horizontally between each tier, from the bottom to the top of each case, and any and all infringements upon said patent, either for manufacturing, selling or using without authority from the undersigned, will be prosecuted. Parties desiring information will apply to the owners.

STEVENS & GRAY,
Union Market, Howard street,
Between Third and Fourth streets.

18-v1-3m

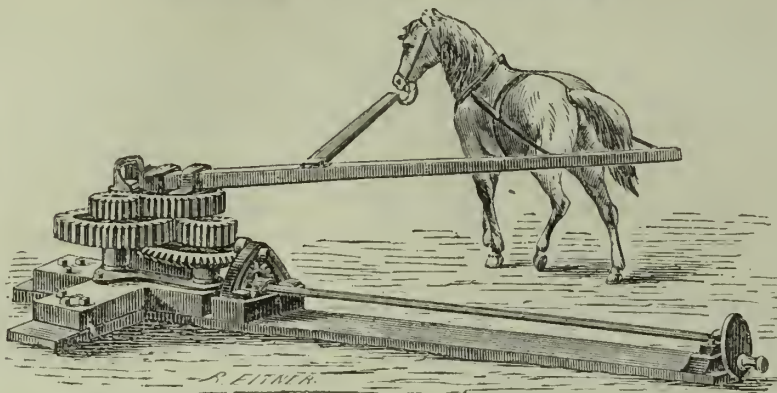
GILES H. GRAY. JAMES M. HAYEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,
in Building of Pacific Insurance Co., N. E. corner California and Leidesdorf streets,
SAN FRANCISCO.

27v16

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MANUFACTURERS OF

EXCELSIOR AND GOLDEN STATE WIND MILLS,

LITTLE GIANT HORSE POWERS,

PUMPS AND WATER TANKS,

Nos. 211 and 213 Mission Street, SAN FRANCISCO.

N. B.—We have made the manufacture of the above Machinery a Specialty for the past ten years, and guarantee all our work. 4v2-1am3m



GEO. B. BAYLEY,

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Importer and Breeder of CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale.
Address, with stamp, P. O. Box 659, San Francisco.

CHOICE POULTRY.

The undersigned, Importer and Breeder of

Light and Dark Brahmas,
Partridge and Buff Cochins,
Houdans,
Black Red Game Bantams,
Black African Bantams, and
Aylesbury Ducks.

OFFERS FOR SALE BOTH

IMPORTED AND CALIFORNIA BRED STOCK.

ALSO,

Eggs for Hatching.

No orders filled O. O. D.

For further particulars address

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Brooklyn,
Alameda Co.,
Cal.

21v1-1f

THE ASPHALTUM PRESSURE PIPE COMPANY,

HAVING ERECTED A MANUFACTORY
of sufficient capacity to supply their Asphaltum Pipe in large quantities.

Are now Prepared to Take Orders
AND MAKE CONTRACTS.

This Company will manufacture Pipe and guarantee it to stand any pressure required; it is lighter than iron pipe and more durable, it is not affected by chemical action, cannot corrode, and being glazed imparts no disagreeable taste to water. To miners and farmers it is invaluable; any body can put it down; it is twenty per cent cheaper than iron pipe and ten times more durable. For further particulars, apply at the office of the Company, Room No. 2, 645 Market street. 16v21-1f

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Good News for Fruit Growers.

IN SHOOKS. MADE UP.
Redwood..... 14 cents. 17 cents Regular
Pine..... 15 cents. 18 cents sizes.
Send for Circulars and Samples.

MORGAN & CO.,
103 Washington st., near Drumm.

3v2-1m

Farmers and Teamsters,

SAVE YOUR MONEY!

BY USING THE

Patent Wood Horse Collars and Hames
Combined,
Which has many advantages over the Leather Stuffed
with Straw.

1st. DURABILITY, lasting at least ten times as long.
2d. CONVENIENCE. Opening below, can be laid on and off the Horse, having one fastening in place of two or three.

3d. Is one-third lighter than leather collar and hame.
4th. Can be easily fitted, as it is so constructed that the length and width can be changed in a few minutes.

5th. As there are no stitches to break, or stuffing to press out, IT NEVER LOSES ITS SHAPE, always bearing upon the muscular part of the shoulder, near the neck—the proper place for draft.

6th. Its smooth, hard surface, giving equal pressure on the whole line of draft, NEVER SWEATS OR RUBS OFF THE HAIR.

7th. It has an important advantage in the stationary curved arch, keeping the collar from setting tight around the top of the neck when heavy tongues have to be carried (as in some machines), thus keeping the neck cool, and free from sores in the hottest weather. Leather Collars will tighten over the top of the neck, and heat and gall the animal.

8th. Wood being a non-conductor of heat the soreness caused by Leather Collars becoming wet by perspiration is avoided. It has many other advantages which cannot be known without trial. This Collar is WARRANTED to Cure Horses with Sore Shoulders in Three Weeks, Working Every Day. Give them a trial.

For Circulars, price of Collars, and all other particulars, apply to or address

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Sole Manufacturers and Dealers for the Pacific Coast.
Agents wanted. 19v1-3m

Holbrook's Patent Swivel Plows, For Level Land and Side Hill.

8 Sizes.



Send Stamp for Circular.

WON THE
HIGHEST PRIZE
at N.Y. State Trial,
1870, for Plowing
Sod & Stubble

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing, bi-angled steel Cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

Manufactured and sold by

F. F. HOLBROOK & CO.,
Boston, Massachusetts

19v1-7m

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1858.

J. M. MAXWELL.
1871.

HENRY K. CUMMINGS & CO.,

Wholesale Fruit and Produce Commission
House,

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with that of the producer. 4v23-1y

WM. M. LANDRUM,

BREEDER AND IMPORTER OF

Long-Wool Varieties and Southdown

SHEEP AND ANGORA GOATS.



Offers a fine lot of all grades of RAMS for sale.

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22v1-6m Watsonville, Santa Cruz County, Cal.

SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address STORRS, HARRISON & CO.,
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FOR GOPHERS, SQUIRRELS, RATS, CAYOTES,
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This Trap, as may be seen, is of simple construction, and not likely to get out of order, and very durable.

It is Very Efficient

and can be used conveniently by women or children. THE CHEAPEST AND BEST YET INVENTED. Price 50 cents. By mail, prepaid (to places where express charges are high), \$1. A liberal discount to clubs or dealers who buy by the dozen. Address the inventor and manufacturer,
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Sects and Creeds differ, but there are no dissents from the general principle, that a great medicine is a great blessing. We have many of these blessings, but among them all, in the province to which it belongs, no greater than

Tarrant's Effervescent Seltzer Aperient.

A column would not suffice to enumerate the ailments for which it is prescribed by physicians of the highest standing. It does not belong to the class derisively termed patent medicines, but is an article based on scientific analysis, and will stand the test of the sharpest and most rigid medical criticism as a cathartic, a stomachic, an anti-febrile preparation, and an admirable remedy for all bilious complaints. LET THERE BE NO MISTAKE. SECURE THE GENUINE ARTICLE ONLY. SOLD BY ALL DRUGGISTS.



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AND THE

Organ of the Masonic Fraternity on the
Pacific Coast.

Subscription Reduced to \$2.50 per Year.

ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M. W. Grand Lodge, F. & A. M. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said Masonic Mirror to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.

At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:

Resolved, That we recommend the MASONIC MIRROR, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

TO ADVERTISERS.

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The best and cheapest Domestic Pump in the market.
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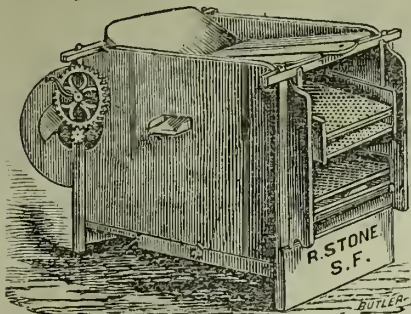
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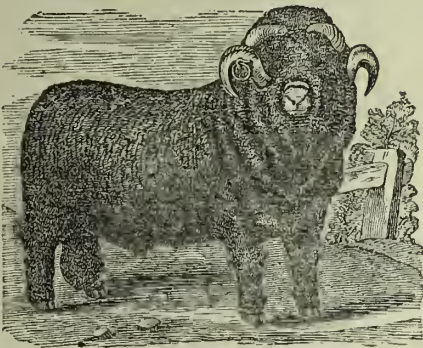
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Is one of the greatest improvements of the age for cleaning and separating Grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far exceeds anything that has been invented for the separation of Grain. It has been thoroughly tested on all the different kinds of mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

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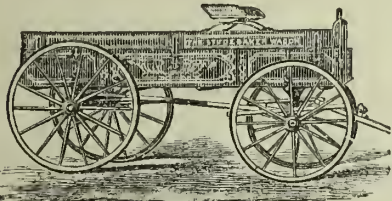
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These Rams are guaranteed to be pure blooded French Merino, and I would respectfully call attention to them from those who desire to see or purchase the best and purest of stock.

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WAGON.

THE BEST FARM WAGON;

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Now offer for sale the Pure Bred and High Grades. We have a good lot of crosses between the Cotswold and South Down, between the Lincoln and Leicester.

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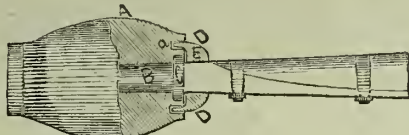
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already made, or in new work, the ring may be slipped on before the axle is welded up. Town, County, Shop and State Rights for Sale.

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Can be applied to both New and Old Plates, so as to retain them firmly in the mouth while eating or talking; superior to any thing ever before invented, cost of applying it small, and the greatest improvement immediately felt by the wearer.

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This Bar will withstand 800 degrees more heat than any other Bar now in use. It is unequalled in durability. It generates more steam from the same quantity of coal, making a saving of from 10 to 15 per cent. in fuel. It has been examined and used by some of the most scientific Engineers in the United States, and pronounced the best Grate Bar extant for marine or land boilers. The Patent Right to the Pacific Coast is placed in our hands for sale. A complete model can be seen at our office, or a descriptive circular will be sent on application.

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This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required. It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

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ap8-3m

G. W. OSBORN, } Agents.
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To Merchants, Manufacturers,
Farmers and Nurserymen.

Tenders will be received to the 25th of September next for the following supplies for the service of the

California Cotton Growers and Manufacturers Association.

Twenty tons Cotton Seed, 12 Farm Wagons, 30 Plows, 15 Harrows, 15 Cultivators, 100 Hoes, 36 Spades, 31 Shovels, 12 Road Scrapers, 12 Wheelbarrows, 12 Stoves, 12 Axes, 12 Hatchets, 12 Hammers, 12 Picks, 12 Hauls, 4 Cross-Cut Saws, 4 Augers, 4 Brace and Bits, 4 Complete Sets Carpenters Tools, 4 Sets Light Harness, 4 Saddles and Bridles, 60 Sets Draft Harness, 250,000 feet Lumber, dressed and undressed, 100 Doors, 200 Butt Hinges, 100 Locks and Keys, 300 Sash, glazed or unglazed, 100 Kegs Nails, 1,000 pounds paint, 60 gallons Oil, 500,000 Mulberry Trees, 500,000 Grape Vines, 5,000 Fruit Trees in Variety, 200 Sacks Flour, 400 Bushels Potatoes, 300 Bushels Indian Corn, 60 Draft Horses, 30 Cows and 20 Hogs.

Address Tenders to

JAMES DALE JOHNSTON,
Secretary and General Agent Cal. Cotton Growers and Manufacturers Association, San Francisco. 19v1-3m

SACRAMENTO SEMINARY,

I Street, between Tenth and Eleventh,
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THE SEVENTEENTH SEMI-ANNUAL SESSION of this Seminary for Young Ladies, owned and conducted by Mr. and Mrs. Hermon Perry, assisted by a full and efficient corps of Professors and Teachers, will commence on MONDAY, AUGUST 7TH, 1871.

For particulars address

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FULL BLOODED SHEEP!

For Sale, at Fair Prices, 40 Rams and 20
Ewes, of

Full Blooded Silisian Stock,

from the celebrated "Electoral" Flock of William Chamberlain, Esq., of Red Hook, Dutchess County, New York. These are the purest and best bred Silisian Sheep in the United States, if not in the world, and have carried off the

FIRST PREMIUMS

in Fine Wool Classes at the State and National Fairs since 1854.

ALSO FOR SALE,

Full Blooded Cotswold and Full Blooded
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just selected from the Best Flocks in England by one of the best of judges, Wm. T. Wilson, Esq., and imported by him especially for this market.

Also, California Bred, Full Blooded

COTSWOLD AND SOUTHDOWNS,

and 1/2 and other crosses between these Breeds and between each of these Breeds and Full Blooded Spanish Merinos.

Also, Full Blooded Berkshire Pigs,

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HIGHEST PRICES PAID FOR WOOL,

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ROBERT BECK,

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Patent Agraffe Pianos,
GRAND, SQUARE AND UPRIGHT.

Pianos to Let.

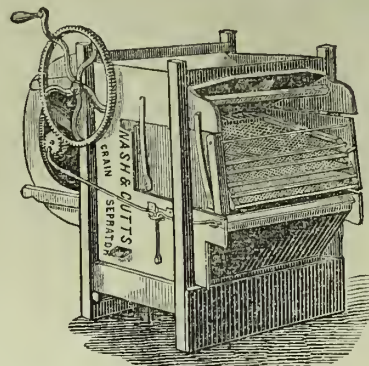


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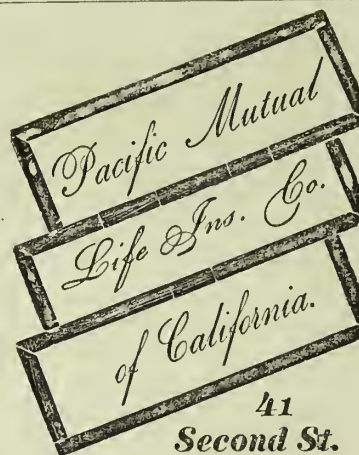
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California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, THURS., A. M., July 27th.

FLOUR—Has been in improved demand for export, and dealers generally report a good jobbing trade. There is evidently an increased demand for superfine flour for the Hongkong market, and we last week noted a small, but unexpected shipment, by steamer, to Sydney. It is thought that this may possibly lead to a trade of some moment in this direction, as among the first fruits of our newly established semi-monthly steam service with those distant regions. The Milton Badger and Zephyrs will also take a considerable quantity to Central America.

Transactions embrace 3,000 bbls. California extra, 2,500 bbls. Oregon extra, and 10,000 bbls. California superfine. The latter on private terms. We continue our quotations of last week, without change, as follows:

Superfine, \$6.12½@6.25; extra, in sacks, \$6.75@6.87. Standard Oregon brands may be quoted \$6.62@6.75.

WHEAT—The receipts are meagre for the season—less than the general expectation, not so much from the scarcity, however, as from the general unwillingness of the farmers to market their grain at present. There seems to be a disposition to hold on and wait later European advices concerning the crop prospects there, as well as to ascertain more fully whether our crop will be largely in excess of the home demand for consumption and seed. The latter fact cannot be arrived at with any degree of certainty until late in the fall. Enough is already known to fully establish the fact that we have a surplus; and that fact established it matters but little whether it be large or small, so far as affecting the price of wheat in this city is concerned. The value of any surplus, whatever, must depend upon the European market. We venture the opinion that farmers will do well to realize at once, and save storage, shrinkage and interest.

There has been a better enquiry for shipping grades and a fair demand for milling purposes, both at a slight reduction in prices. Sales have aggregated about 25,000 sks. fair to choice at from \$2.12½@2.25 for new and \$2.25@2.30 for old. The second vessel for the season is now loading.

The Liverpool market remains at 11s. 5d. New York rates, \$1.65.

BARLEY—The new crop is coming in freely and prices have declined. Sales during the week have aggregated about 10,000 sks. The range of new crop may be quoted at \$1.50 @1.57½—choice old brewing, is in good demand at from \$1.90@2.00.

OATS—Have been in fair demand at a slight decline. Sales of 3,000 sacks are reported at from \$1.80@2.00 from fair to choice—\$2.05 extra choice.

CORN—The market may be quoted at \$2.15 @2.25—an advance.

CORNMEAL—Is quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—Still quotable at \$3.

RYE—Nominal at \$2.50 for choice.

STRAW—Quotable at \$8@10 by the cargo.

BRAN—The mill price is \$27.50.

MIDDINGS—For feed are now selling at \$38@40—and \$45 for fine.

OIL CAKE MEAL—Is quotable at \$40 from the mill. There is a continued good demand for this valuable feed, with sales as fast as made.

HAY—The receipts are fair with good demand. We quote ordinary to choice at \$15.00 @20.50 per ton. Tame oat, \$18. Three cargoes fair to choice are reported at from \$17@20.50—the latter for choice wheat.

HONEY—We quote Los Angeles strained 13@14c. Small lots of choice white, from San Diego have been sold at 30c. Potter's in 2-lb cans, \$4.50 per doz.

POTATOES—The receipts have been large during the week, and demand limited. At the close, receipts have fallen off giving a little more tone to the market; but without producing any change in prices. Prices for good to choice may be quoted, at from 62@85c—a decline, since our last reference, at from 20@25c. A slight improvement is remarked as we go to press.

In view of this deprecation, the Mission potato growers have called a meeting, for the purpose of devising means for protecting themselves from the ruinously low prices at which they are now obliged to sell their products. One proposition it is understood is that each cultivator shall withhold shipments from the market two days each week.

SWEET POTATOES—Two or three small lots of Carolina have been received, first of the season, and sold at 8@14c per lb.

HOPS—Demand light—prices nominal at 9 @12½c. for California.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9c. Sales during the week 1,659 Cal. dry, and 1,586 salted.

WOOL—There is a ready sale for all that comes to market. Receipts, however, are very small, as usual at this season of the year. We quote the range of fair to choice shipping grades at 30@35c for California, and 37½@40c for Oregon. Sales of some 20,000 pounds are reported for the week.

Fall shearing has already commenced in the southern portion of the State, but no considerable lots are expected in market before the last of next month. It is yet too early to ascertain how the market will open. Oregon is still arriving quite freely, and is selling at 40@43½c per lb.

TALLOW—The extremes may be quoted from 8@9½c.—The latter extra choice.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 14½@15c; Oregon, 15@15½; Chicago 18c; California Hams 14@15; Oregon do, 15½@16c; California Sugar-cured Hams, 16@17c; Oregon do, 17@18c; Eastern do, 18@20c; California Smoked Beef, 13@14c.

BEANS—Extremes of quotations—Bayo, \$2.75@3.00 Butter, small White and Pca, \$2.00@2.25; Pink, \$1.75.

ONIONS—We quote red at 80@90c, and yellow at 90c@1.00.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c per lb.

FRUIT—Tahitian Oranges, \$12.50@15; Limes, \$15@20 per 1,000. Sicily Lemons, \$16 per box; California, do, \$6 per 100. Bananas, \$1.50@2.50 per bunch; Cocoanuts, \$12.50@15 per 100; Apples, 50c@1.50; Pears, 75c@1 per box. and Bartlett's \$2.50; Peaches, \$1, and Crawford's, \$1.50 per basket; Apricots, \$1@1.25; Nectarines, \$1.25@1.50 per box. Cherries, 16c for Oregon; Currants, 5@7c; Raspberries, 12½c per lb; Plums, 50c@1 per basket. Prunes, 8@12½c; Strawberries, 8@9c; Blackberries, 5@7c; Figs, 8@10c; Grapes, 3@6c per lb.

VEGETABLES—Cabbage is selling at 1½@1¾c; Asparagus, 6c; Rhubarb, 2@3c; Garlic, 1 @1½c; Green Peas, 2@2½c; String Beans, 2½ @3c; Summer Squash, \$1@1.25; Tomatoes, \$1½ @2; Cucumbers, 50c@1.00 per box; Green Corn, 10@25c per doz; Watermelons, 10@18c each, and Canteloupes \$3@5 per doz; Egg Plant, 3c; Okra, 6c per lb. Marrowfat Squash, \$6@10 per ton.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c per lb. Do 2d quality 6@7c per lb. Do 3d do 4@5c per lb.

VEAL—Extremes, 7@10c.

MUTTON—¼@5½c per lb.

LAMB—May be quoted at from 6½@7c per lb.

PORK—Undressed is quotable at 5@6½c. dressed, 8½@9½c.

POULTRY, ETC.—Is in limited demand. Hens \$5.50; Roosters \$5@6.50; Ducks, tame, \$4.50@5.50 per doz; geese, tame, \$1.50@1.75 per pair; live turkeys, 17@18c per lb.

WILD GAME—Hare, \$1.50@2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 27½@30c; California firkin butter, 25@30c. Two or three fancy dairies are realizing 32½c. Eastern firkin 15@25c.

CHEESE—In fair supply, California new, 10 @14c., California Factory 16c., Eastern, 15@16c. for new.

Eggs—California fresh, 36@37c. Ducks, 30c LARD—California Lard, 11-lb tins, 14@15c; Oregon in bbls. 14½c.; Eastern do. 13 @14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|----------------------------------|---------------|---------|
| Rough..... | \$15 00 | \$11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, beaded..... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Siding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | |
| Picket, rough, pointed..... | 16 00 | |
| Picket, dressed..... | 22 50 | |

DRIED FRUITS—The market quiet. We quote prices as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, German, 11c per lb; Raisins, layer, \$3.25@3.75 per box; Currants, Zante, 10½c.

TABLE OF MISCELLANEOUS.

| | |
|-----------------------------|-------------------------------|
| Sugar, crsh'd, lb \$14½@15 | Hemp Seed, lb \$ 7 @ 9 |
| Hawaiian, do. 9 @ 12 | Castor Beans, lb. 4 @ 4½ |
| Coffee, Cos. R. lb 15½ @ 16 | Castor Oil, gal. 1 75 @ 2 00 |
| Rio, do. 16 @ 16½ | Linseed Oil, gal. 1 05 @ 1 10 |
| Tea, Japan, lb. 50 @ 60 | Brown Corn, lb. 3 @ 5 |
| Green, do. 50 @ 60 | Beeswax, lb. 27 @ 30 |
| Rice, Haw'n, lb. 8½ @ 9 | Peanuts, lb. 5 @ 7 |
| China, do. 6 @ 7½ | Corn Meal, cwt. 2 50 @ 4 00 |
| Coal Oil, gal. 50 @ 60 | Onions, cwt. 1 50 @ 3 50 |
| Candles, lb. 15 @ 18 | |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SOLE LEATHER—Eastern shipments still keep the market firm and the demand good.

| | |
|---|--|
| City Tanned Leather, lb. 26 @ 30 | Common French Calf Skins, per doz. 35 00 @ 75 00 |
| Santa Cruz Leather, lb. 26 @ 30 | French Kips, lb. 1 00 @ 1 30 |
| Country Leather, lb. 25 @ 28 | California Kip, lb. 60 00 @ 75 00 |
| The French market remains the same. California kips are higher and in demand. | |
| Jodot, 11 to 19 Kil. per doz. 82 00 @ 96 00 | |
| Jodot, second choice 11 to 15 Kil. per doz. 68 00 @ 88 00 | |
| Lemoine, 16 to 19 Kil. per doz. 90 00 @ 90 00 | |
| Levin, 12 and 13 Kil. per doz. 68 00 @ 70 00 | |
| Cornellian, 16 Kil. per doz. 72 00 @ 73 00 | |
| Cornellian, 12 to 14 Kil. per doz. 65 00 @ 70 00 | |
| Ogerau Calf, per doz. 54 00 @ 54 00 | |
| Mercier Calf, 16 Kil. per doz. 65 00 @ 65 00 | |
| Common French Calf Skins, per doz. 35 00 @ 75 00 | |
| French Kips, lb. 1 00 @ 1 30 | |
| California Kip, lb. 60 00 @ 75 00 | |
| Eastern Wheel Stuffed Calf, lb. 80 @ 1 25 | |
| Eastern Bench Stuffed Calf, lb. 1 10 @ 1 25 | |
| Eastern Calf for Backs, lb. 1 15 @ 1 25 | |
| 200 lbs for Topping, all colors, per doz. 1 15 @ 1 25 | |
| Sheep Roans for Linings, per doz. 5 50 @ 10 50 | |
| California Russett Sheep Linings, lb. 1 75 @ 5 50 | |
| Best Jodot (a f Boot Legs, per pair. 5 25 | |
| Good French Calf Boot Legs, per pair. 4 50 @ 5 00 | |
| French Calf Boot Legs, per pair. 4 00 | |
| Harness Leather, lb. 30 @ 37½ | |
| Fair Bridle Leather, lb. 48 00 @ 72 00 | |
| Skirting Leather, lb. 34 @ 37½ | |
| Welt Leather, lb. 30 00 @ 50 00 | |
| Ruff Leather, lb. foot. 20 @ 24 | |
| Wax Side Leather, lb. foot. 18 @ 20 | |

Our Printed Mail List.

Subscribers will notice that the figures found on the right of the pasted slips represent the date to which they have paid. For instance, 21st/70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4/72, that he has paid to the 4th of January, 1872; 4/73, to the 4th of July, 1873. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction. Please notify us if you are not properly credited within two weeks after paying.

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WM. J. CLARK—California.
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E. P. HICKA—California and Oregon.
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The First Annual Election of Stockholders of the CALIFORNIA CO-OP GROWERS AND MANUFACTURERS ASSOCIATION will take place at the office of the Association, in the city of San Francisco, at 10 o'clock in the forenoon, on Saturday, the 5th day of August, 1871. By order of the Board of Trustees. JAMES DALE JOHNSTON, Secretary. San Francisco, July 1st, 1871. Jul 8-4t

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Rules and Regulations can be obtained from any of the officers at the Institute or Pavilion.

In conjunction with the Industrial Exhibition, the BAY DISTRICT HORTICULTURAL SOCIETY will hold its first Exhibition of the Fruits and Flowers of California, occupying a space of 320x50 feet.

PRICES OF ADMISSION:

Season Tickets admitting gentlemen and one lady \$5 00
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The above Tickets are not Transferable.

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Children must be in charge of guardians or parents. Tickets can be obtained from any of the Managers, at the Mechanics' Institute, 27 Post street, at the Pavilion, Union Square, or from the principal Music or Drug Stores in the city.

No bills will be paid unless ordered by the proper Committee. By order

A. S. HALLIDIE, President. W. H. WILLIAMS, Secretary. 2v23-16p 4t



Modes of Growing Rice in South Carolina—With Illustrations.

CONCLUDED.

I here below represent the position of the trunk with a small part of the river, trunk-dock and ditch to the field as seen looking vertically down upon them.

The process I have described implies great experience and labor in bringing a rice plantation into cultivation.

There are however great variations in practice, where circumstances permit, tending greatly to diminish both the cost of improvement of the land and its culture.

The cultivation of an inland swamp plantation much resembles that of tide swamp, except that having no command of tide waters, the upper part of the swamp is used as a reservoir for water, which is kept there by a heavy bank made across the lower end of the reservoir, and the lower part of the swamp forms the rice field. But I have never cultivated inland swamp.

I have of course omitted many minutiae, aiming at pointing out what is essential and peculiar to the cultivation of rice here.

The bank and ditch around the land being finished, and the trunk in its place, or bed, the land can be kept dry, and the next step is to clear the land by denuding it of its natural growth. I need not state the mode of doing this. Clearing new lands for any kind of culture varies according to the crop to be cultivated. Much, in fact most of the rice land in South Carolina was originally heavy timbered, and cost much labor to clear. If on flooding the land which has been taken in and surrounded with bank and ditch, it is found to be so uneven that some large parts are more than a foot lower than the rest, it is desirable to divide it into two or more separate fields, putting the lower portion of the land in one field, and the higher portion in a separate field, as far as such a separation is practicable. The highest alluvial land is generally near the river, and the lower further back from it. (See the diagram of land divided into four rice fields.) The fields are separated from each other by a bank, which need not be as large as the large bank next to the river, and a ditch always runs around each field 15 or 20 feet distant from, and parallel to the banks. Each field has a trunk to itself. After the land is cleared it receives a further draining by cutting small ditches across the field from the ditch on one side of the field to the ditch on the other side. These small ditches are called "quarter drains," they are straight, parallel to each other, usually about 105 feet apart, and 18 inches wide by two and a half or three feet deep. When the land has been several years cultivated it will need more draining, and then two more quarter drains, dividing the field into long strips of land or beds, about 35 feet wide.

Cultivation and Management of the Crop.

On an old rice field the land is usually ploughed, or dug with a hoe, in winter, and harrowed, or chopped fine with a hoe, towards spring. On absolutely new land this is not necessary, and if the land has many stumps and roots remaining on it, it cannot be easily done.

In preparing to sow the seed the land is drilled or trenched, on old lands sometimes with a trench plough, but usually by hand. The laborer uses a narrow hoe, about eight inches long and three or four wide at the edge, and steps backward in doing his work. In order that the drills or trenches might be straight, several rows of four or five stakes are set up across the field, the rows of stakes being five feet apart, a skillful laborer makes a trench in a line with each row of stakes, and less skillful laborers make three trenches between

every two made by the first. As the work is finished in one part of the field, the stakes are shifted over to the next part until the whole field is trenched with straight parallel drills fifteen inches apart. Four hands (men) trench about three acres. The trenches are about two inches deep.

The sowing of the crop is begun after the middle of March, and continued at intervals, dependent on the spring tides, until the middle or end of May. One or more fields being trenched, you begin to sow the grain some days before the last spring tides in March, or the first of April. The seed is sown by hand,

ble until the rice is about five inches high and has four leaves. It is then hoed for the first time. The laborer using a hoe six or seven inches wide, gives a light and very shallow digging to the surface of the land between the rows of rice, stepping forward as he works, superficially stirring the soil and cutting up any grass growing there. After hoeing through his task, he goes carefully over it, and with his hand or a short stick removes any clods which may have fallen on the rice plants. After two days, if the weather be dry, allowing that time for the sun to kill the grass which has been dug up by the hoe, or immediately if

The field is now kept as dry as possible for twenty-two or twenty-three days after the long water, when it should be hoed again, but very shallow and superficial hoeing, so as not to injure the roots of the rice, but merely to level the clods of the former digging, and destroy the young grass. The task is half an acre, and any long grass is pulled by hand out of the rice rows as before. A day or two after the "lay by water" is put on. That is, the field is flooded to about the same depth as marked on the trunk post, or other convenient place, lower or higher, according to the growth of the rice. Care must be taken that when the rice is "in belly," that is when the ear begins to form in the plant, that the water should not get above the swollen or enlarged part. When the plant has shot out its ear the water may be deepened, but never to beyond eighteen or twenty inches.

During this flow, which generally continues more than two months, when the rice has got strong enough to stand without the support of the water, the water is changed as often as you conveniently can. That is at every spring tide you run the water off, being certain that the next tide will be high enough to enable you to replace it with fresh water.

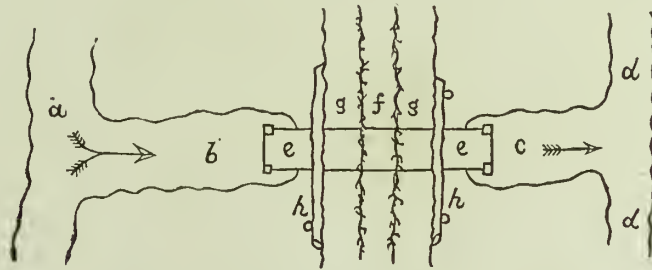
The crop is kept flowed this way, without any further labor, if it has been well weeded, until the rice is nearly ripe. Rice sown on the 1st of April, and well cultivated and judiciously watered, is usually ripe by the 1st of September. Sown the 15th of May it will be ripe by the end of September. The grains are now yellow, plump and pretty hard, except those toward the lower end of the ear. The water should now be turned off, and the field allowed to dry for three or four days. The rice is then cut with a sickle, and laid for one or two days on the stubble, which is usually left from fourteen to eighteen inches long. It is then tied into sheaves and stocked in cocks in the field for a few days, or carried at once to the barnyard and put up in small stacks until thoroughly cured. Care must be taken that it is not tied into sheaves or stacked while damp. But I need not further particularize the mode of treating it, as it is much the same as with other small grain crops.

Without going further into detail, I will merely state that after a rice plantation is taken in and ready for cultivation, it is found here that from six to eight acres can be cultivated to the hand, the hands being the men and women of a gang of negroes, who are neither too young or too old to be efficient laborers.

On new lands of good quality, well cultivated, the crop is heavy, yielding fifty-five, sixty, or seventy bushels to the acre. On old lands, which have been cultivated in rice for fifty years or more, the yield varies from fifty to forty-five, down to thirty bushels per acre, according to the quality of the soil. On a plantation with 300 acres rice land, the 300 acres may be divided into 15 or 20 fields, and there are often 50 hands, negroes, men and women, who with children and old people will make more than 100.

THE TABLES TURNED.—There was a time when some considerable alarm was felt, on account of the earthquakes here; but if we are to credit the Eastern papers, the earthquakes, tornadoes and thunder storms in the Atlantic States are now so severe that Californians may well hesitate about going East, without first getting their lives insured, for the benefit of the friends they leave behind. The loss of property and life at a single tornado at the East has exceeded the total casualties of all the earthquakes on this coast since the memory of "the oldest inhabitant."

FRUIT is now abundant in this market.

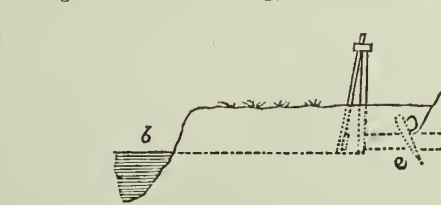


VERTICAL SECTION OF BANK, TRUNK-DOCKS, ETC.

a—River. b—Outer Trunk-Dock. c—Inner Trunk-Dock. d—Ditch around Rice Field. e—Trunk. f—Level top of the Bank. g—Sloping sides of the Bank. h—Logs, called "string-pieces," laid across the trunk and fastened by stakes, to keep the trunk firmly in its place, and to support the earth at foot of bank.

about two and a half bushels to the acre, as equally distributed along the trench as possible. Each sower (usually a woman) sows two to two and a quarter acres. Three hands follow her, covering the seeds lightly with soil thrown out in making the trench. The laborers in covering the seed, use a simple tool called a "cover-board," made of a piece of inch board, sixteen or eighteen inches long, four or five

wide, beveled at the sides and ends, and with a large auger hole in the middle to receive one end of handle five feet long. In use it is intermediate between a hoe and a rake—the light soil is drawn obliquely into the trench to cover the seed, and the clods, if any, are crushed by a smart blow with it.



Profile of Cross Section of Part of River, Outer Margin, Bank over the Trunk, Inner Margin and Ditch. a—Bank made over the Trunk. b—River. c—Ditch. e—Pins to secure Logs. f—Trunk.

As soon as a field is sown and covered, the outer door of the trunk is opened and the tide let in and the field flooded one foot or more deep. The water is kept there from three to six days—the warmer the weather the shorter the time. While the water is on the field, all the trash which floats and drifts to the bank is raked off and heaped on the bank or outside of it. A very few hands can do this while the rest are at work in another field. This flooding is called the "sprout flow," and when the water is drawn off the grains have begun to germinate. The field is then kept dry a week or more, until you can see the fine points of the rice plant coming out of the ground, visible for thirty feet along the trench. This is called the "needle state" of the rice. The field is then flooded. This is called the "point flow," and is kept on, say one foot deep, from four to eight days—the warmer the shorter the time. This flowing helps to destroy the young grass which has begun to grow, but if kept on too long is apt to stretch and weaken the rice, so that it falls down when the water is taken off. The field is then kept as dry as possi-

for twelve or twenty-three days, according to the quality of the land, the heavy or stiff lands requiring the longest water. The water should not be turned off at the end of fifteen days, as drying at that period is known to injure the rice. If not turned off at twelve days, it must be kept on several days over fifteen. The water is then gradually slackened off in the course of a day or two, for the rice in the lower parts of the field having been stretched and weakened by the greater depth of water there, is apt to fall down on the water being suddenly drawn off. This shows the importance of a rice field being as level as possible, otherwise the rice in the lower spots is materially injured, and in the high places the grass is not destroyed by the water. During this flow, what grass has not escaped the hoe, and was too old to be killed by the water has been growing rapidly. It is desirable, if you have time, to pull it up by hand out of the rows of rice, before or at the time you are slacking the water off the field.

As soon as the field is thoroughly dry, it should be hoed again. This time it is dug as deep as practicable with a hoe about eight inches long, but not more than six inches wide, through each space or alley between the rows of rice. In digging, the sod should be turned over, and after the laborer has hoed through his task—one half acre—he goes over it again and pulls up any long grass left in the rows of rice.

MECHANICAL PROGRESS.

SIEMEN'S RESISTANCE PYROMETER.—The principle of this rests on the following facts: The electrical resistance of a conducting wire of given metal, at a fixed temperature, to a current of constant intensity, depends upon its diameter and its length; but when the temperature of the wire increases, the resistance increases. So that if we have a platinum wire of considerable length, whose electrical resistance at some known temperature is ascertained, we can determine some unknown higher temperature by determining the resistance at that temperature. The pyrometer consists of a tube of thin iron (to be inserted part way into the furnace) containing a porcelain spiral grooved cylinder, on which is wound a platinum wire. The ends of this wire pass through clay tubes inside of the iron pipe to a sufficient distance, and finally are covered with insulating material outside of the pipe. With the current constantly passing through the coil, the resistance to it may be measured either by the deflections of a magnetogalvanometer, or, preferably, by a suitably constructed differential voltmeter. The voltmeter used by Mr. Siemens consists of two voltmeter tubes, fixed upon graduated scales; which are so connected that the current of a battery is divided between them, with one branch including a known and permanent resistance, and the other the resistance to be measured. Changes of atmospheric pressure affect both sides equally, and therefore do not influence the results; but a reading at the atmospheric pressure is obtained by lowering the little supply reservoir with dilute acid to the level indicated in the corresponding tube. The upper ends of the voltmeter tubes are closed by small weighted levers with india-rubber cushions; after each observation these are raised, and the supply reservoirs moved so as to cause the escape of the gases until the liquid in the tubes comes again to the zero line of the scale, when the instrument is ready for another observation. The leading wires between the thermometric coil and the measuring instrument, would exercise a considerable disturbing influence, but this is eliminated by means of a third leading wire common to both branches of the measuring instrument. This can be used easily to determine at any time temperature even at points miles away.—*Engineer.*

"PIANO-MECANIQUE."—At the International Exhibition, Mr. Debrain has exhibited a "piano-mécanique" or mechanical substitute for a pianist,—an addition to an ordinary piano, so that the instrument can be played on by machinery or in the usual way. On opening the lid of the piano, we see, according to the *Mechanics' Mag.*, a row (about 5 in. long) of steel points, running transversely to the length of the piano. These points connect, by levers, with hammers placed above, and independent of, those used with the ordinary key board. In line with the points is a steel bridge, about 1 in. high, with a flat spring on its underside. A series of small boards—planchettes—are placed, face down, on the top of the piano, the end being brought under the bridge at starting. Each planchette has a rack which gears into a pinion just inside the bridge, which is actuated by a handle in front of the piano. The planchettes are provided with steel studs which represent the notes to be struck and are spaced according to the tones, like the barrel of a hand organ. The handle being turned, the planchettes are moved, and the studs on them, by impinging on the steel points, cause the hammers to strike the strings. Each planchette represents a portion only of the composition, so that as the rear end of each approaches the bridge, the operator follows it up with another planchette. The forte and piano pedals are actuated by separate studs on the planchettes, elongated according to the duration of their action.

A SIMPLE LOCK-NUT.—The Oakley bolt is a most simple nut locking arrangement. On one side of the bolt the screw-thread is partially cut away, producing a flat surface. A triangular washer is stamped with a hole which corresponds with this form of the flattened bolt, and consequently cannot turn. An ordinary nut is screwed down on it and held by turning down an angle of the washer so as to clip the nut. A complete lock is thus obtained.—*Mech. Mag.*

INCREASE OF NARROW GAUGE RAILROADS. The first great revolution in railway practice is taking its successful course, not without strenuous opposition from prejudice, conservatism, and indifference; but all these obstacles and the difficulties they create directly and indirectly, are being swept away, as the conviction gathers strength that countries now unprovided or ill supplied with railways must soon have them, and that they must be productive, and not sources of loss. There is only one means by which this result can be achieved—a reduction of gauge, an increase of gradients and curves—cheap railways in short—proper mechanical appliances for economically working traffic, and a rigid observance of economy in construction and in management. There are very few, even of those who have carefully followed the discussions upon narrow-gauge railways in these columns and elsewhere, who have any idea of the extent to which such constructive reform has now spread. The situation may be summed up thus: In India a gauge of 3 ft. 3 in. has been established, upon a scale that will bring into existence a system probably of thousands of miles. The reduced width will, in fact, become the gauge of the country. Australia, Tasmania and New Zealand are following the same course. Australia especially is determined upon receiving the reform and carrying it out fully. In Russia the 3 ft. 6 in. gauge is definitely accepted, and the results of its working will shortly result in construction of an enormous *reseau* of lines from north to south, from the Baltic, penetrating into Siberia. In Egypt the same width is to be adopted. In the United States more than 2,000 miles of narrow gauge are in actual progress, or about to be commenced. California is organizing railways on the reduced gauge in all directions; lines are being started in the unsettled territories of the west and north-west, where communications alone are required to convert uninhabited regions to wealthy agricultural or rich mining districts; in the Eastern and Central States, where energy and capital are most alive and plentiful, narrow gauge companies and organizations—not vague schemes, but promoted by engineers and capitalists, are urging the construction of independent railways, or of feeders to the existing lines. In Canada, where progress drags along most wearily, narrow gauge railways are being built; even for Prince Edward's Island contractors are at the present moment solicited to tender for the construction of a 3 ft. 6 in. line from Casumpec to Georgetown, a distance of 120 miles.—*Engineering*, June 30.

WHITE'S ROLLING MILL.—A model of this was exhibited at the London International Exhibition. It is intended to avoid the loss of time and other disadvantages attending the operation of rolling as ordinarily practiced by the shifting of the bar from one groove to the other, the turning it sideways for edging, etc. The system consists in the use of several pairs of rolls combined in one mill, some of the rolls being vertical and others horizontal, and they are so arranged that the bloom is compressed flatways and edgewise alternately through as many pairs of rolls as may be required for reducing the iron to its proper size. The machine is so constructed that the bloom enters the second pair of rolls before leaving the first, and so on through the entire series of rolls without stoppage, thus superseding all manual labor, with the exception of a man to throw the pile into the first pair of rolls, and another to take the bloom or bar away; and what is more important still, allowing the iron the smallest possible space of time to cool in the process. The system is more particularly applicable to blooming, roughing, or slabbing rolls, but, in many instances, it can also be applied to finishing rolls. The mill is capable of turning out a large quantity of work, the Aberdare Iron Company having made from 90 to 100 tons of iron in twelve hours by one machine.—*Eng. and Min. Jour.*

THE RHIGI RAILWAY has lately been opened. It runs to a height of 5,000 feet, and is constructed with three rails, the middle one of which is a rack intended to work with a pawl attached to the locomotive. Each train is composed of an engine and two carriages holding about 60 persons. The engine is always below the carriages.

To CLEAN and polish ivory carvings—first bath brick in powder, well sifted, applied with felt and spirits of wine, or with a circular brush, afterwards finely washed with whiting and spirits. Nothing is better to finish with than ivory dust.—*Technologist.*

SCIENTIFIC PROGRESS.

GEOLOGY OF THE GREAT BASIN.—From King's Report on the mining regions along the 40th parallel, we condense a few facts on the geological history of the region. The greater part of the rock of the interior mountain area (from the Sierra to the Wahsatch mountains) is a series of conformably stratified beds reaching from the early Azoic to the late Jurassic. In the late Jurassic these beds were raised, and the Sierra Nevada, the Wahsatch mountains and the parallel ranges of the Great Basin, were upheaved. Accompanying this upheaval, important masses of granite broke through, accompanied with quartz-porphyrines, felsite rocks, and, notably, syenitic granite, with occasional occurrences of granulate and gneiss. Then, on the west side the Pacific Ocean, and on the east side the ocean which covered the Mississippi Basin, laid down a system of cretaceous and tertiary strata. These outlying shore beds, subsequently to the Miocene, were themselves raised and folded, forming the Pacific Coast Range and the chains east of the Wahsatch; volcanic rocks accompanying this upheaval as granites did the former one. Still later a final series of disturbances occurred, but these last had but small connection with the region of which this volume treats.

There is a general parallelism of the mountain chains and all the structural features of local geology, the ranges, strike of great areas of upturned strata, larger outbursts of granitic rocks, etc., are nearly parallel with the meridian. So the precious metals arrange themselves in parallel, longitudinal zones. There is a zone of quicksilver, tin and chromic iron on the coast ranges; one of copper along the foothills of the Sierra; one of gold further up the Sierra, the gold veins and resultant placers extending far into Alaska; one of silver, with comparatively little base metal, along the east base of the Sierra, stretching into Mexico; silver mines with complicated association of base metals through Middle Mexico, Arizona, Middle Nevada and Central Idaho; argentiferous galena through New Mexico, Utah and Western Montana; and, still further east, a continuous chain of gold deposits in New Mexico, Colorado, Wyoming and Montana. The Jurassic disturbance in all probability is the dating point of a large class of lodes: *a*, those wholly inclosed in the granites, and *b*, those in the metamorphic beds of the series extending from the Azoic to the Jurassic. To this period may be referred the gold veins of California, those of the Humboldt mines, and those of White Pine, all of class *b*; and the Reese River veins, partly *a*, and partly *b*. The Colorado lodes are somewhat unique, and in general belong to the ancient type. To the Tertiary period may be definitely assigned the mineral veins traversing the early volcanic rock; as the Comstock lode and veins of the Owyhee District, Idaho. By far the greater number of metalliferous lodes occur in the stratified metamorphic rocks or the ancient eruptive rocks of the Jurassic upheaval; yet very important, and, perhaps, more wonderfully productive, have been those silver lodes which lie wholly in the recent volcanic formations.

So far as we now know, no metallic veins occur in the Tertiary formations east of the Wahsatch mountains; whereas the remarkable metamorphism in the Tertiary coast ranges near San Francisco Bay, has developed extraordinary deposits of quicksilver and chromic iron.

Of the series of conformable strata forming the main central mountain masses, from 6,000 to 10,000 feet are true coal measures of the Carboniferous, but without a trace of coal, having been laid with rare regularity in the quiet depths of an ocean. The two bordering systems contain, however, near the upper limits of the Cretaceous, and upward into the Tertiary, important beds of coal. The California beds and those in the sandstones along the east base of the Wahsatch mountains, are Cretaceous; but the strata, as one goes east, change in character, and we finally get Tertiary coal.

WATERPROOF FABRICS.—There are five principal methods which have been proposed for rendering goods waterproof.—1. Waterproofing by means of a coating of gum or caoutchouc. By this method the pores of the fabric are closed and the access of air prevented. It is, therefore, unsuitable for clothing, and also too expensive; it does very well, however, for belting, tubing, etc. 2. Covering the tissue with varnish or lac. It makes the goods

hard and liable to break. It is entirely unsuited for dress goods, for these reasons and also because it renders the cloth inflammable. 3. Impregnation with tar and paraffine. This coating does not last long, as it is destroyed and rendered inactive by the action of the air. 4. Impregnation with solutions of metallic salts, such as iron, copper, and zinc. By this method it is impossible to obtain true waterproofs. 5. Precipitation of alumina upon the fibre. By this method the tissue retains its suppleness; its weight is but little increased, and a perfect waterproof coating assured. The following are some of the receipts communicated: Beard & Downing use a mixture of linseed oil, rosin, Burgundy, pitch, and caoutchouc, with a little petroleum added, and white lead. De Brun: 100 parts linseed oil, 15 parts litharge, 15 parts amber, 2 parts hydrated protoxide of manganese. Spill & Company: naphtha and caoutchouc. Bronman: 100 parts slacked lime, and 100 parts of soda, dissolved in water; add 270 parts of rosin, and 0.003 gum gut; the solution dissolved in boiling water, and 10 parts of alum added. Hirsch: 100 pounds linseed oil, 5 pounds copperas, 4 pounds zinc vitriol, 6 pounds caoutchouc. Steinhause stretches the cloth over a hot iron plate, and rubs the paraffine into it; or the paraffine is melted in a tank and the goods passed through; or the paraffine, pure or mixed with steaming wax, etc., is applied in solution.—*Manufacturers' Review.*

COLORING METALS.—C. Pascher, of Nuremberg, proposes a quick and cheap method of coloring the surface of metals by adding a coating of metallic sulphides. He dissolves 1½ oz. hyposulphite of soda in 1 lb. of water and adds thereto 1½ oz. acetate of lead dissolved in ¼ lb. water. This clear solution heated to 190° to 210°, F., decomposes slowly and precipitates sulphide of lead in brown flocks. If a metal is present, a part of this sulphide is deposited on it. Thus, there may be imparted to brass articles a color varying from gold to copper red, then carmine red, dark and then light aniline blue, blue white and finally reddish white, according to the length of time they remain in the solution. Iron takes a steel-blue, and zinc a brown color. Lead and zinc are entirely indifferent. If sulphuric acid is substituted in the solution for acetate of lead, brass is covered with a beautiful red, then green, then fine brown with green and red iris-glitter; this last is a very durable coating.—*Technologist.*

HEATING BY WATER.—"It occurred to me that the flow and return might be managed by the use of a single pipe, instead of two, as now universally adopted. I directed the experiment to be tried by affixing, to the socket-end of a four-inch pipe, an inch supply-pipe from an ordinary boiler, and a second pipe communicating with the bottom of the four-inch pipe and the bottom of the boiler. As I expected, the circulation was most perfect and rapid, the hot water flowing along the upper surface of the pipe, and the cold water returning along the lower surface. Two currents in opposite directions were created in the pipe, and the action was so perfect that I ordered, to be fitted up forthwith, a frame, which has been in operation ever since. This mode of heating by a single pipe may be, no doubt, of frequent use; and manifestly, from the simple and portable nature of the apparatus, the arrangement will commend itself to the attention of horticulturists."—*Alfred Smee.*

THE SPECTRUM OF THE CORONA, writes Prof. C. A. Young, is, in all probability, composed of at least four superposed elements: 1st. A continuous spectrum, without either bright or dark lines, due to incandescent dust. 2d. A true gaseous spectrum of the second order, consisting of a more or less bright continuous background with well marked bright lines. 3d. A true sunlight-spectrum (with its dark lines) formed by photospheric dust reflected from the solar atmosphere and meteoric dust. 4th. A mixture of the three named with the addition of the chromosphere spectrum. This light from the terrestrial atmosphere, like that reflected from particles near the sun, is evidently partially polarized in radial planes.—*Amer. Journal of Science.*

ATOMIC WEIGHTS OF COBALT AND NICKEL. At the suggestion of Prof. Gibbs, Mr. R. H. Lee, of the Lawrence Scientific School, Cambridge, Mass., has determined the atomic weights of cobalt and nickel. He finds these to be, for cobalt, 59.10; for nickel, 58.01.

CORRESPONDENCE.

A Trip to Colorado.—No. 4.

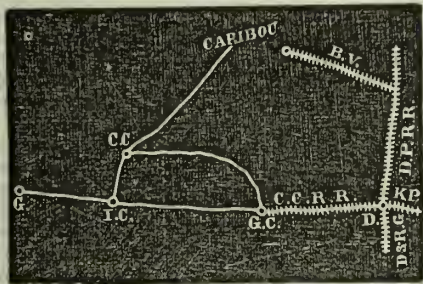
BY OUR OWN TRAVELER.

From Golden I went to Central City, to visit this famous mining center. And here it occurs to me that, before writing further, it would be perhaps well to map out the routes. For I fear that many in California have but an indefinite idea of this great territory of Colorado. So I send you a drawing which, although very small, is large enough to denote the relative positions of the several places. In the drawing, D stands for Denver, G. C. for Golden City, C. C. for Central City, I. C. for Idaho City, G. for Georgetown; C. C. R. R. is the Colorado Central Railroad, D. & R. G. the Denver and Rio Grande, K. P. the Kansas Pacific, and B. V. the Boulder Valley.

Central City.

One's first impressions on getting into Central are not very favorable. You come over the mountains into the North Clear Creek Gulch, and ride up a steep and dusty road past Black Hawk to Central City, the two last places adjoining. You find the city built on the steep hillside, the streets narrow and not particularly level. There is no timber to lend beauty to the scene; the work of the miners has scarred the hills, and, besides the active mills and mines, you see works which are falling into decay.

Luckily one's first impressions are not lasting. An acquaintance with the people gives one different ideas. Greater kindness and hospitality I have never met with. The people here have had hard



times, and the evidences of these are what strike one unfavorably at first. But no one ever stays any length of time in the place without getting the strongest belief in the growing betterment of affairs and in the future prosperity of the Territory.

At Central there are two hotels,—the National, R. B. Smock, proprietor, and the Conner House. Considerable fault has been found hitherto with the accommodations for travelers. Now the Central City folks have determined to direct their enterprise in this direction, and to remove all cause for fault-finding. They have raised \$10,000 in cash, given "out and out," and a stock company is being formed with \$20,000 or \$30,000 more, for the purpose of building a first-class hotel. This is to be ready by next Spring; and I doubt not but that Central will then have a place second to none west of the Rocky mountains. This action shows the enterprise of the people of this section. Possibly, they have been too hospitable previously for the good of the hotels.

Central has two of the best papers printed. The Register (Collier & Hall, proprietors) is excellently edited, is full of enterprise, and is deservedly a most popular because a decidedly first-class sheet. The firm has a fine book and job office, and does most superior work. The Herald is filled with interesting news, is most ably managed, and is making its influence felt in the community. These two papers look well after the interests of the place, and by their live character are conducing materially to the prosperity of this section.

There are three banking houses here which do quite a large amount of business. I found the gentlemen of the Rocky Mt. National Bank very attentive to business and to the desires of those with whom they have to deal.

Visitors—Foundry, Etc.

I had the pleasure, while at Central, of meeting the members of the mining department of the Mass. Institute of Technology, who are on their summer excursion to the mines and smelting works of the country. The party is composed of Messrs. J. D. Runkle (President of the

Institute), J. M. Ordway (Prof. of Metallurgy), A. P. Rockwell (Prof. of Mining Eng.), Dr. S. Kneeland (Prof. of Zoölogy), R. H. Richards (Prof. of Mineralogy and Assaying) and J. B. Henck (Prof. of Civil Eng.); and five graduates and ten undergraduates. Besides studying mining and metallurgy on the ground, the party make collections of minerals, ores, products of the various processes, etc. This plan of summer expeditions is a leading and important feature of this institution.

The Central City machine shop is owned by the enterprising firm of Hendrie Bros., who also have works at Helena, Montana. This company has 15 men employed and turns out good work. An important feature is their manufacture of Bolthoff's patent pressed shoes and dies, of which I have given you a description in a previous letter. These give good satisfaction. They are also turning out Bolthoff's ball pulverizers, which are reported on favorably. This machine, I am told, will pulverize 15 tons in 24 hours so as to pass through a 60 screen. The shop is now filling an order for a 20-stamp mill and one for a 10-stamp mill for mines in the Territory.

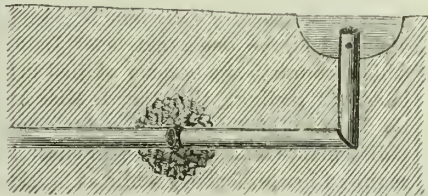
The Black Hawk Foundry is owned by Langford & Co., and ably superintended by S. S. Davidson. The company employs 12 men and does general repairing, etc., giving good satisfaction.

Cash & Rockwell have chlorination works, which are not running at present, but which will be started up at an early day.

Underground Irrigation.

EDS. PRESS:—I don't intend to discuss the question of irrigation, as the vast preparations going on all over the country to bring in water by ditches and canals, seems to have convinced the dwellers on our dry soil, that some artificial means must be resorted to, in seasons like the two last. In order to have sufficient moisture to produce anything the present season I have been engaged in a small way in experimenting with underground irrigation. I propose to give the results as well as the conclusions that I have arrived at from observing its workings.

By the same means of supplying water



(a small windmill) I have the past two seasons tried to irrigate, by top irrigation, a portion of the same ground that I made my experiments on this season; but by reason of its baking so hard I abandoned it, as useless to try to produce vegetables, the soil being a clay resting on hard-pan or bed-rock as we call it, a portion adobe. My ground is planted with fruit trees 16 feet apart each way; being young we usually plant some vegetables between the rows. As early as the 1st of April I discovered a lack of moisture in the ground and being engaged in the manufacture of pottery it occurred to me to try earthen pipe under the ground, as a means of irrigation. We commenced by digging our trenches twelve inches deep and 180 feet long and in the center of each row, that is 16 feet apart, the ground having a slight fall, we laid down pipe of a somewhat porous texture, and two inches in diameter, two feet long, placing the ends half an inch apart, and covering them with broken pottery, (gravel would do as well), so as to prevent the soil from working in the pipe.

At the end where I supply the water, I have what I call a head ditch. Attached to each row of pipe is an upright pipe with a hole in the side. Our upright pipes set in the center of the head ditch. When the water is turned in the head ditch it feeds all of the upright pipes, through small openings, which method prevents the dirt from washing in, and gives us full control of the pipes, as we can open or close them at pleasure. The accompanying diagram will give an idea of the plan adopted.

Having all things arranged, we turned on the water the 15th of April last, being

something new, we watched the effect very closely. In a few days the moisture began to make its appearance over the pipes, and gradually spread until it met at the trees, and the effect on the trees and vegetables was something akin to magic. Being pleased with my experiment, No. 1, so far, and having another small orchard planted with peach and plum trees. I concluded to try experiment, No. 2.

I put up another windmill, and using 2 in. pipes, one foot in length, which I find to be an improvement over the pipe two feet in length, I placed the rows 8 feet apart instead of 16, as in my former experiment. The ground had become so hard on the 10th of May we had to use picks in order to get our trenches down. Peach trees that had been set out last winter had not at this time put out a bud. On the 16th of May we let the water in the pipes, and as soon as sufficiently moist we plowed and planted between the trees with peas, beans, tomatoes, etc., and what a crop! It would do you good to look at it. Scarcely any one passes the road that does not stop to look at and enquire what produces it. I show them the upright pipe or feeder. That is all that is visible. The store house is underneath. They are satisfied that underground irrigation is a success—the only question with all is, "will it pay?" I answer most emphatically yes.

Now do not imagine because I make pipe, that there is a mouse in the meal tub. I do not wish to sell a foot to those that I cannot demonstrate to by actual observation that it will do what I claim. At five cents per foot my last experiment would pay for the pipe by selling the vegetables at present market rates that grow on it this season, besides the benefits to the trees and the fruit.

Without irrigation, this season, I am satisfied I would have lost most of my trees; but now those that are old enough are loaded with fruit, and show a splendid growth of wood.

Our experiment shows conclusively that underground irrigation is that sure thing, long looked for, and invaluable for orchards, vineyards, berry crops, vegetables, etc. After your pipe is once down, the labor of irrigation is light; you can place your pipe and it will not interfere with tillage, you have no unsightly ditches to be changing and covering up; your water is always at the right temperature for your plants; the moisture coming from below induces the roots to go down, instead of spreading on the surface as they do from top irrigation. If you depend on the wind for water a calm of three or four days will not injure your plants, as they will draw moisture from the storehouse below. It will not require more than one-third the water that is used for top irrigation, and let the soil be what it may be, it will not bake, and besides you have a ditch prepared for draining in wet seasons, which is essential to many localities and soils. I invite those who feel an interest in the subject to call at 34th and J streets, Sacramento, where they can settle the question themselves as to the utility of underground irrigation. NOVICE.

July 14th, 1871.

Notes on Half-Moon Bay—No. 4.

Farming in the Valleys and on the Coast.

The great diversity of crops adapted to our soil and climate makes farming with us a very different thing to farming in the interior. While we produce luxuriantly for the market, oats, wheat, barley, potatoes, onions, beans, peas, corn, buckwheat, rye, flax, chicory, canary seed, English mustard, dairy produce of all kinds, and large fields of root crops for the support of the dairy, besides the neat cattle and thousands of hogs every year driven to the San Francisco market; the farmer of the interior, devoting himself exclusively to the cultivation of his wheat and barley fields, finds many opportunities to eat his bread in idleness, that he would sadly miss if he were a farmer of the coast. He sows his fields with all the haste the skinning of the gang plow will admit; plowing is done, not as to how well, but how much; and it is soon over.

I was visiting a friend in Santa Clara valley a few years ago. It was in the spring, and he called my attention to a field of seventy-five acres which he assured me he had plowed up in ten days, with a "Sursa" gang plow and four horses. I did not like to dispute the statement, al-

though I could not help my doubts. It seemed big work to me, just from the coast, where we plow about one and one-half acres to the span. But I was there again during his harvest, and when I saw him sack up from sixteen to eighteen bushels of wheat per acre, from very good valley land, I had no more doubts upon the subject. I then believed that he *did* plow that seventy-five acres, with a "Sursa" gang plow and four horses in ten days. Further observation satisfied me that he was no exception among his neighbors, but that they could plow just as much land in ten days as he could, and did it.

Their harvest fields being dry, from early morn till dewy eve, gives them a great advantage over us in the use of headers and all kinds of rapid harvesting machinery. While we are waiting for our grain to "dry off" from the drenching it has received over night, they are making rapid strides towards the closing up of their year's work.

We are sowing and planting one-half of the year, and harvesting some crop or other the other half. Our plowing is done almost exclusively with the single plow; some fields where gangs are used, money would be made by throwing them away and plowing deeper with a single plow. Thus, it takes us considerable longer to do our plowing, especially on the hill lands. Some grain is sown in December, but principally in January, February and March. During the same months we plant a few fields of early potatoes to dig in May and June. We must also have our ground worked over twice or three times, for late potatoes and the root crop; also for the vegetable garden, for we do not buy vegetables.

The early potatoes having been cultivated and hoed out a time or two are now ready to be dug and hauled off to market, for the beets, carrots and squashes must be in the ground as soon as possible—also the late potatoes. The early potato ground, now vacant, we plant to beans, buckwheat or English mustard, and so get two crops, besides leaving the land in such order as to insure a heavy crop of grain next season. Between this and harvest we are kept busy putting up our hay, cultivating and hoeing out the potatoes, weeding and thinning the root crops, looking after the dairy—for we all make more or less butter and cheese, and now is the time it must be attended to, either for shipment or packing. Moreover, those hogs must be fattened up for the drovers, who will soon be long looking for dairy-fed pork.

Harvest is now at hand, and is going to last some time,—especially if we should have a season of wet fogs, as is most sure to be the case during harvest. We cannot use the header—too much fog—so must take to the reaper, and cut the grain down, not up, into a header wagon. Next comes binding and shocking; then hauling and stacking. It is very uncertain work, threshing out of the shock, days together being so foggy you could do nothing but feed a lot of threshers—the terror of the women folks. After stacking comes threshing; and as we thresh about all that grows above the ground, it takes some longer than merely running the heads through. But finally it is done, and then comes the hauling to the landing—quite a chore when your road is by no means all the way down hill. But you must hurry up with the hauling, for there are other crops to be looked after yet, and the potatoes must be got out of the ground as soon as possible, or the gophers and mice will get more than their share. And finally if you are not smart about it, the rains will catch you on the road before you have them at the landing. And so the year has rolled around, and each month has brought its fill of work and care.

Our crops this year are excellent. Barley is about all cut; but the oat harvest comes on slowly, owing to the foggy weather. Oats always take their time, when the fogs are about; but they fill most extraordinary well, and so fill the granaries, and the farmer's purse with coin and his heart with gladness. The fog drives the sunshine from the land, but brings it around the "hearth and home."

G. W. T. C

EUCALYPTUS LEAVES FOR DRESSING WOUNDS have been tried at a hospital in place of lint. The leaves which have a peculiar smell, are merely laid upon the wounds. Their balsamic nature not only aids in the curative process, but after a few hours all unpleasant odor from old wounds or sores, ceases to be perceived.

HOME AND FARM.

The New England Agricultural Fair.

The Eighth Annual Fair of the New England Agricultural Society will be held in Lowell, Mass., on the 5th, 6th, 7th, and 8th of September. Some few weeks since, Mr. C. S. Capp, Secretary of the California Immigrant Union, sent to the Secretary of the N. E. Agricultural Society, a package of immigration documents, in acknowledging the reception of which the Secretary writes as follows:

It has occurred to me that it would be a good idea for your Union to send specimens of wheat and other grains, vegetables, fruits, etc., raised in your State, to our Fair. The Fair was attended last year by more than 100,000 people, and is decidedly the largest thing of the kind in the East. Should you think well of the suggestion, your contributions shall receive due attention and be given a prominent place in the Exhibition, properly labeled, etc.

Very truly, E. T. ROWELL.

The above letter was promptly answered by Mr. Chas. S. Capp, Manager of the California Immigration Union, with the assurance that all proper attention would be given to the suggestion, and special efforts made to secure a representation of California products at the forthcoming exhibition at Lowell.

Mr. Rowell's letter was accompanied by a pamphlet containing a lengthy and liberal list of premiums offered by the Society for all kinds of agricultural products, etc. It would be well if our grain dealers, farmers and others would forward samples of California products, for exhibition at that Fair, which might be afterwards transferred to other Fairs in that portion or the country. We are authorized to state that if a suitable collection can be made, the Managers of the California Industrial Union, at 316 California street, will arrange for their transportation and exhibition. A really creditable and well selected exhibition of this kind might be of material service to the State.

We would here repeat what we stated last week, that Mr. Hoag, of the California State Agricultural Society, early this season opened a correspondence with the Secretaries of most of the Eastern Agricultural Societies, with regard to an exchange of products for exhibition—particularly of fruits. Affirmative responses have already been received from some fifteen associations, and arrangements have been made with the different railroad and express companies plying between the Atlantic and Pacific States, by which all packages of fruit for exhibition, on either side, will be transported free of charge. We presume that a similar arrangement can also be made for the transmission of small parcels of other produce.

Farmers' Festivals.

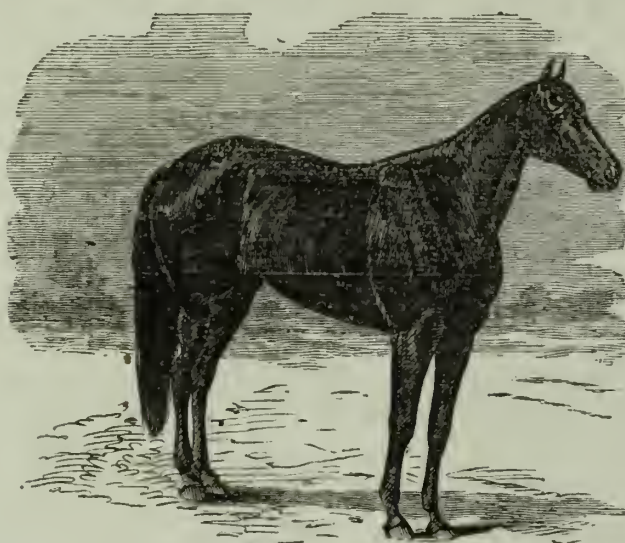
Our farmers and their wives do not make the Fair Season an occasion of so much national festivity and enjoyment as might be desirable. It would be well if every Fair in the State should be followed by one or two days of enlivening festivity, by gatherings of the attendants for social and intellectual enjoyment. A sort of general, annual gathering for free and easy conversation, for discussions on subjects of farm work and domestic economy, and rural, home culture and entertainment. When and where shall the first grand Farmers' Festival be held? It needs only that a few leading spirits should answer this question to secure the most pleasing results.

MAP OF UTAH MINES.—Our correspondent, W. H. M., now in Utah, has had a map of some of the principal mining camps drawn by a gentleman of high standing there, and this will be published by us with his communications from that place.

Celebrated Trotters.—No. 5.

Mountain Boy.

This horse is a grandson of Hambletonian, having been got by the stallion Edward Everett, who was also the sire of the famous young horse Joe Elliott, and is now the property of Mr. Bonner. Mountain Boy is a bay horse, very strong and powerful, but somewhat coarse, and with nothing like the high quality and blood-like finish that distinguish Dexter, Peerless, Lady Thorne, Pocahontas, and some other of our best and fastest trotters. At one time it was thought that ugliness, coarseness, and want of symmetry were good things in trotting horses, but that arrant nonsense is now exploded. The form of the fast trotter now closely approaches that of the substantial, thoroughbred running horse. Mountain Boy was very fast some years ago, but was never a sticker, and latterly his feet have made him unsteady. But he is still a comparatively young horse, and he may yet come again. He is one of those that got near the top of the tree all at once, and then went back instead



MOUNTAIN BOY.

of improving. This was owing to his feet, in all probability.

Willow for Fences.

A correspondent of the *Country Gentleman*, writing from Rossville, Ill., gives the following as his experience in the use of willows for a live fence: Many were humbugged a few years since by men selling willow for fencing. They have grown up and spread out over the ground, and take the substance of the land for two or three rods. Those who have them will find they were not so badly humbugged, if they will cut them down in the spring—cut them in six foot lengths, sort out even sizes, and drive them in ground that is low or on any land where they will grow. Even sizes should be put together. They should be driven about fifteen to eighteen inches, and not bruised in driving; should be eight inches from center to center, and a board nailed on top, and you have a good fence. A few days since, I saw a half-mile that was put out this spring, and did not see one but was growing. You do not have to wait years for a fence. The stakes should be two to five inches thick. By nailing a board on, the cattle will not spread them and break through. I have three-quarters of a mile to cut in the spring, which I have considered an nuisance, but now would not part with them.

ASHES OF HARD AND SOFT WOOD.—It is generally supposed that the ashes of pine wood is not so rich in alkalies as that of hard wood. In his "Muck Manual," Dr. Dana says that, "in equal weights, pine ash affords four times more alkali than the ash of hard wood." At the same time a bushel of hard wood ashes yields more alkali than a bushel of pine wood ashes; the ash of the pine being much the lightest. According to analysis, only 13½ parts in a hundred of hard wood ashes are "soluble," while of the yellow pine fifty parts are soluble.

THE wealthiest private individual in this hemisphere is said to be Henry Meiggs, now of Peru. Possibly.

The Silk Factory in Operation.

The California Silk Manufactory, at South San Francisco, is now in the full tide of successful experiments. As soon as the machinery now on hand is adjusted about 50 hands will be employed; which number will be increased to about 100 as soon as the mill is filled with machinery to its fullest capacity. The superintendent is a gentleman who has had large experience in Europe, where he has worked raw silk from China, Japan, France and Italy. He says the native California silk is fully equal to any he has ever worked.

The reeling department is one which will for the present excite the most interest and attention from the public, as it is a branch of the business which it is proposed shall be transferred from the factory to the homes of our silk growers, all over the State.

The true plan of silk raising contemplates the production of the raw silk (reeled) by the producer—it properly has no place in the factory. In this depart-

ment at the factory may now be seen two young girls, the one a native of Italy, in which country she became skilled in the labor of "reeling," the other is Miss Amelia Thomas, of this city—the first native Californian who learned to reel silk. She acquired her proficiency while at work for Mr. Neuman, and reeled a large portion of the silk from which the presentation flags manufactured by him were made.

Many silk growers from various parts of the State have already visited the factory to satisfy themselves of the reality of the enterprise, and to witness its operations. The managers will extend every facility for the training of reelers, who may wish to engage in that occupation in immediate connection with the production of the cocoons. The company prefer to buy their raw silk rather than reel it themselves at the factory. No weaving will be done at the factory at present; but it is expected that as the business expands, the manufacture of fabrics will become a feature of the enterprise.

\$1,000 Reward.

EDITORS RURAL PRESS:—I will pay the above reward for the "French Agent," or any other man, who will purchase one million skins of our ground squirrels and pay the cash for them at 12 cts. per pelt. CONTRA COSTA.

We are now satisfied that the story of there being an agent in this State willing to pay 15 cents per skin for ground squirrel hides, is all a hoax. We learn from the California Glove Manufacturing Co., that it is impossible to use them for glove-making owing to their small size. Large numbers have recently been shipped to San Francisco, but have been thrown away as useless. The seam in the skins on the squirrel's back debars the use of the skin for gloves. We are assured by practical glove makers that it is untrue that rat and mole skins are used to any extent for glove-making.

The California Cotton Growers and Manufacturers' Association.

The following letter from Thomas A. Garey, of Los Angeles, and the answer of Secretary Johnston fully explain themselves, and will be read with pleasure by all who take an interest in the development of cotton growing and silk-producing in this State. It will be seen that the company whose name stands at the head of this paragraph, and which is the chief promoter of these twin enterprises evidently means business. The advantages of advertising in the RURAL PRESS will also be made apparent by the perusal of

Mr. Garey's Letter.

LOS ANGELES, July 19, 1871.

JAS. DALE JOHNSTON—Dear Sir: I have been reading the Cal. Cotton Growers and Manufacturers' advertisement in the PACIFIC RURAL PRESS, and wish to know what varieties of mulberry you need. I have from 30,000 to 50,000 morus alba and moretti, from one-half to three years old, and morus multicaules to the number of say 100,000, two or three years old.

Do you need orange, lemon, lime, figs and English walnut trees, and if so, how many of each of the above kinds? Please answer by return mail. Yours truly,

THOS. A. GAREY.

Mr. Johnson's Reply.

THOS. A. GAREY Esq., Los Angeles—Very Dear Sir: Our association is truly determined to make the wilderness blossom with the cotton plant, and also with the rose. Our vast plantation will be divided into extensive cotton parks, say from 50 to 100 acres each. Those parks will be surrounded with hedgerows, of mulberry, which shall be regularly clipped, and at given distances in the hedgerows we shall have the different varieties of fruit trees, nursed into bearing, but serving the double benefit to us of fruit and shade. There are a number of phases of our extensive plan, the details of which, were they now attempted to be given would make this letter too prolix. By the fall we shall have a sufficient staff of laborers on the plantation to enable us to commence foundation work. We shall have a large number of horses and wagons, and should you want our assistance, I presume there would be no difficulty in sending down from our plantation in Kern Co., to your nurseries a sufficiently strong detachment to render you prompt assistance.

Our association expects that everything I purchase, as their General Agent, shall be obtained at current cash prices. With this intimation to you, which I am assured you will honorably respect, you can have the opportunity of being associated in our Incorporation to the extent, at least, of the amount of your bill against us for trees.

You will please therefore to promptly forward me your price list, upon which I shall mark the quantities of the several varieties our plantation will require, under the advisement of our Board of Trustees. Please send the list in duplicate.

It will afford me pleasure to hear from you as soon as possible.

I remain, my dear sir, with kind and respectful regards, Yours very truly,

JAS. DALE JOHNSTON,

Secretary and General Agent Cal. Cotton Growers and Manufacturers' Association.

Queries.

CANARY SEED CULTURE.—"J. F. D." asks of our correspondent "Jeigh Arrh:" "What kind of land is most suitable for canary seed? How much seed should be sown on an acre? How many pounds per acre will it yield? Does it require more or less moisture than wheat or barley? Is it cut and threshed with the same machinery as wheat, and if not, how is it done?—In fact I wish he would tell us all about "canary seed in the field."

HEN DISEASE.—Eds. Press:—Thos. R. Stoddard complains of the hen disease. My hens have been affected in a similar way. I have fed them freely on onions cut up fine. They eat them with good effect and have improved in health and in laying. J. M.

Mark West, Sonoma Co., Cal.

THE Central Pacific Railroad has just manufactured a new railroad postal car of very convenient construction.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE COUNTY.—Morland & Griffith, of the parrott grant, near Chico, have raised 30,000 bushels of grain this year. A few weeks ago the prospects of a complete failure was imminent.

FLOUR SHIPMENT.—*Record*, July 29th.—During the present week this house has shipped an enormous quantity of flour from the Ophir to various parts of the country. Orders from Salt Lake, Ogden, and other important points on the line of the Central Pacific Railroad, as well as San Francisco, are being received daily by Mr. Perkins to be filled from the Ophir. This evidence of the superiority of the wheat grown in Butte county is very gratifying to our farmers.

FRUIT SHIPMENTS.—Mr. Finletter informs the *Chico Enterprise*, of July 29th, that he is shipping large quantities of fruit to parties in San Francisco. He says on account of the warm weather ripening the peaches so rapidly that he is compelled to pick them for the purpose of converting them into brandy. He has delivered upwards of 16 tons, the present week, to Mathew's distillery, just below town, where they will be made into choice peach brandy.

YUBA COUNTY.—*The Appeal*, Aug. 1st, says that during a late hunting trip A. P. Spear killed thirty-three grouse—shot them at Milton, eight miles from Webber Lake. Mr. Spear represents the grouse to be plenty in that locality.

STORING WHEAT.—Same paper says W. P. Harkey is storing his wheat with Ellis & Trayner. He is delivering about nineteen tons per day, using in the transportation one ten and one eight-mule team. Mr. Harkey raised this season about 6,500 bushels of wheat and 1,000 bushels of barley, and it was not a very good season for grain either.

LAKE COUNTY—GRAIN LANDS.—The *Lower Lake Bulletin* says the grain lands in this county are of very limited extent. The largest body is Big Valley, where there is nearly two-thirds of a township, of good grain land, Coyote Valley, the next in extent has not over ten or twelve thousand acres. The other valleys, commencing on the north with Gravelly Valley, are Scott's Valley, one of the best in the county. Bachelor, Long, Twin, Indian, Burns, High, Morgan, Jericho, Jerusalem, Eden, Mysterious and Rincon Valley and the Excelsior District altogether do not comprise over 26,000 acres of good grain land. Thus the total area of grain land in the county is probably not far from 45,000 acres at the outside.

YOLO.—*The Democrat* has been shown a sample of Norway oats raised this season by Wm. B. Gibson, a mile south of Woodland, which it was estimated would turn out 40 bushels to the acre. This is the result of irrigation. Other crops on the same farm which were not irrigated dried up and amounted to nothing.

NAPA.—*The Reporter*, July 24th says: Several hundred tons of wheat and barley have arrived at our various warehouses during the last week. There are buyers for wheat at \$2 10, and for barley at about 45 cents, but the sales have been exceedingly light. We expect to see large amounts of grain coming in about two or three weeks hence. Many of our farmers have not cut their grain yet, and there are many more who have not threshed.

WHEAT AND CORN.—D. W. Creary a farmer, three miles from Calistoga, a few days ago harvested and threshed 30 acres of wheat which averaged 40 bushels to the acre, or 1,200 bushels in the aggregate. The corn on the "Calistoga farm" is from 8 to 10 feet high.

COLUSA—THE HARVEST.—*The Sun* says that A. S. Scoggins has been threshing grain at the upper end of the county, and that many persons up there have better crops than they have had for years before. Some fields have averaged forty bushels to the acre. He estimates that the Walsh ranch alone will produce this year nearly 100,000 bushels. The county will harvest about 400,000 bushels. Besides this, in most of the fields called failures, there was enough for seed, and many farmers are now harrowing in their fields for another crop. So the county will have a considerable surplus.

SONOMA COUNTY—THE HARVEST.—Not within the memory of the oldest inhabitant, says the *Sonoma Democrat*, of July 24th, have our farmers worn such cheery countenances as may be met daily upon the streets of our towns. Harvesting is pro-

gressing in good earnest and the yield in quantity of grain this year will be fully 50 per cent. more than last, while the increase in valuation will probably reach 100 per cent. In conversing with farmers we hear of nothing less than 30 bushels to the acre of wheat talked about, and many expect to reap as high as 60. Barley and corn also are better than ever before. Near Petaluma a farmer informed us that he expected to get at least 100 bushels of barley to the acre. The potato, grape and hay crops are also excellent, and our people generally are jubilant in anticipation of the good fortune that awaits them in the sale of their produce. In addition to the compactness of rows in the heads of wheat, the grains were never so plump and full as this season.

NEVADA—WHEAT.—Robert Morrison has been cultivating the mountain wheat at Piety Hill, Nevada county, with great success. He has been harvesting forty bushels to the acre.

PLACER—THE CROPS.—A correspondent of the *Sac. Record* says: The grain crop is being threshed out, and the actual yield can now be arrived at. It is ascertained to be very much larger than was anticipated even by the most sanguine, and is as fully as large in this section as that of any former year. The fruit crop will, for the most part, be very fair. The crop of grapes is somewhat affected by the hot and parching rays of the sun, which roasted them on the vines, but not to any serious extent. The second crop of grapes is just making its appearance on the vines, and when ripened it will be almost as large as the first approaching maturity. Coloma and vicinity are forwarding hundreds of tons of fruit over the mountains.

SAN JOAQUIN COUNTY—WHEAT AT DRY CREEK.—Mr. T. W. Drullard, one of our traveling agents, reports that Mr. S. Scott, of Dry Creek, San Joaquin county, has a yield of thirty bushels of wheat per acre—the same being grown on land unirrigated. This yield is credited as the result of deep plowing, the value of which has been satisfactorily demonstrated to him.

SHERMAN ISLAND.—ENORMOUS WHEAT YIELD.—Capt. Davis, of the steamer *Clara Belle*, informs the *San Joaquin Republican* that he witnessed the threshing of fifty-eight acres of wheat at Sherman Island, a few days since, and that the product was the enormous yield of four thousand bushels—very nearly sixty-nine bushels to the acre. At this rate of product, a very short time is necessary to the expense of reclaiming tule lands, and when reclaimed, you have the advantage of moist soil in dry seasons, and an assurance of a crop every season.

EL DORADO.—The vineyard men of El Dorado county say that there will be a larger crop of grapes in that county this year than ever before.

Most of the hay and grain in Pleasant Valley is now cut and has made a good yield. Very much of the grain would have paid well to thrash but having no machines or milling advantages the farmers compelled to make hay of nearly their entire crop. A few acres of wheat which will be thrashed by flail or horses it is thought will yield from 25 to 30 bushels to the acre.

WHEAT IN THE RED HILLS.—W. W. Owens of Coon Hollow, El Dorado county, last fall put in three acres of barley and one of wheat on a piece of ground nearly on the top of Hangtown hill, and in harvesting finds the yield extraordinary, considering the location, being nearly on the top of one the gravel and cement hills. The three acres of barley turned out nearly one hundred bushels, and the wheat of the "white club" variety nearly thirty bushels. [We have accidentally overlooked the credit for the above items from El Dorado.—Ed.]

CALAVERAS.—The Calaveras county papers say that the greater part of the yield of grain and hay in that county has been of better quality this season than for years past. Grass is getting short in the usually fruitful valley of San Joaquin. Long trains laden with hungry looking cattle are almost daily passing through Sacramento, bound for the grassy slopes of the Sierra Nevada.

CROPS IN INYO.—*The Inyo Independent* of the 28th instant, says: Produce, corn, and small grain command much better prices than was predicted by the lugubrious croakers who formed opinions a month ago. From all parts of the Valley reports come which indicate an unusually good crop generally.

GOOD CROPS IN FRESNO.—We are informed by Judge Booser, says the *Fresno Expositor* of July 24th, that he planted

about five pounds of Norway oats on half an acre of land, on his ranch near Coulterville, this season, which yielded forty-three bushels. Many of the stalks measured half an inch in diameter, and stood six or seven feet in height.

ALAMEDA GRAIN YIELD.—A correspondent of the *Haywood Advocate*, writing from Livermore valley, says a careful estimate makes the grain yield this year about three times the amount of last year, in that vicinity.

It is estimated that about 300 tons of grain have already been shipped from this valley by rail.

GRAIN MOVEMENT.—Almost every day, says the *Oakland News*, several car loads of wheat, sometimes even a whole train, arrive here, and it is evident that the Livermore and San Joaquin Valleys are not as barren and desolate as has been represented.

DEEP WELL.—An artesian well 200 feet deep has just been bored at Mount Eden, and a flow of 160 gallons of water per minute has been obtained.

SANTA CLARA—THE GRAIN YIELD.—*Mercury*, July 27th. The grain crop in this county is coming in much better than was expected. Although in some localities the crop is an entire failure, on the whole it will be a moderately fair average. One farmer near this city, who supposed he would have no more than a thousand sacks of wheat, found, upon threshing his crop, that he had 1,700 sacks. The straw is generally short, but the heads are well filled.

GILROY.—New wheat is coming into Gilroy from ranches in the neighborhood. The wheat crop in that section has yielded more grain than was at first anticipated.

THE SALINAS VALLEY—MONTEREY.—The *Castroville Argus* says: The harvest is fulfilling our prediction, made several weeks ago, that the crop of this year in Salinas valley, would yield fully one-third more grain than did that of last year. Both barley and wheat, where there is a crop, are turning out very satisfactorily; the late heavy fogs having supplied the plants with moisture enough to develop excellent heads generally. We hear of a hundred and thirty acre piece of Mr. Barden's, on the hills beyond the river, turning out thirty bushels to the acre.

The uplands seem to have withstood the drouth far better than the bottoms, as we have before noticed, and appear to be the most reliable in a dry year, although really far inferior in fertility.

THE SANTA BARBARA PRESS, July 29th, says: Mr. J. Smith informs us that he has threshed, by tramping, some 21,000 lbs. of Australian wheat, from 300 lbs. sowed, and there is a good deal left in the straw. The wheat is in fine order and of good quality. It was raised on high land and without irrigation, about two miles west of town.

WHEAT AND BARLEY.—The *Castroville Argus* has reported the following crop figures: On the Castro Grant, A. Ranie's crop of some 50 acres, barley and wheat, averaged about 22 bushels to the acre. Fretis' crop of 40 acres, wheat and barley, averaged between 28 and 29 bushels. A great deal of grain is cut but not thrashed yet.

On the Cooper ranch, Gallier's barley crop went over 60 bushels to the acre, a few acres going over 90.

B. O. Walker's crop of barley, close by, yielded over 70 bushels per acre.

THE MUSTARD CROP put in by Brawley & Forbes, is turning out poorly, being badly affected by the drouth. There are other mustard crops on the same ranch that promises well so far.

SAN BERNARDINO.—The wheat crop in this county is very nearly all gathered. The crop will turn out far exceeding what was anticipated it would be two or three months ago.

LOS ANGELES.—*The Star* says the corn crop of Los Nietos, and in fact all other crops planted in that favored locality, are growing finely and promise abundant yields.

A lot of fourteen-year old orange trees were sold for transplanting in Los Angeles recently for \$13 each. They were purchased by Gen. Baldwin and Col. E. M. Sandford. So says the *Star*.

NEW VARIETY OF ORANGES.—*The News* says that of the dozen Chucipa orange trees imported some months by Captain Clarke, but four are growing, though they are thrifty and beyond danger. Of the package of a thousand seeds received but twenty have germinated. An experiment undertaken at so much expense should have succeeded better. However, it is now certain that the new variety has been successfully introduced. A number of trees from Florida have been ordered by Capt. Clarke, and will be received within a few week's time.

OREGON.

WHEAT IN WALLA WALLA.—It is thought a million bushels of wheat will be harvested in Walla Walla valley, realizing a revenue of \$700,000 in gold.

WHITE WHEAT.—*The Marysville Appeal* has seen a sample of the Oregon white wheat raised by W. H. Dunn, which yielded fifty-nine bushels to the acre, and is pronounced by the millers to be superior to any other for flour.

FLOUR ON HAND.—Telegraphic dispatches of the 27th ult. from Portland state that the stock of flour in Oregon, at the present time, is smaller than ever before known at the beginning of the harvest. The cargoes of steamers are very light by reason of their taking no flour.

WHEAT HARVESTED.—Wheat grown on the uplands, east of the Dalles, is already harvested. The yield is good.

THE HAY CROP in the Willamette Valley, says the *Farmer*, has mostly been cut. The crop is smaller than it was supposed a short time since it would be, and will fall short of that of last year. New hay is now selling in this city for \$12 per ton, which is somewhat higher than the price paid at this time last year.

THE GRAIN HARVEST in the Umpqua regions shows a heavy yield.

UMATILLA COUNTY.—A note from Mr. A. C. Petteys, Willow creek, informs the *Willamette Farmer* that the season there is very dry, but grain and all kinds of vegetables are in fine order. Stock looks fine. Immigrants are continually coming in, from the Eastern States and the Willamette Valley. The country will soon be settled up with people who are going into stock raising for a livelihood.

OCHOCO.—James Wheelan, writing to the *Democrat*, says that the Ochoco country is nearly eaten out, and cattle are very much poorer than in many other valleys of Eastern Oregon, and are cheaper there than in the Willamette Valley.

WHEAT IN POLK COUNTY.—*The Republican* says of the wheat prospects in Polk: Farmers have been congratulating themselves upon the fine prospects for an abundant harvest; but it is now evident that the late sowed wheat will return a very light yield. Early and fall sowed grain will be excellent.

A correspondent of the *Bulletin* of this city, writing from Polk county, July 16th, says:—Wheat is selling among the farmers at one dollar and fifty cents per bushel for clean No. 1 for bread, and one dollar and twenty-five cents for common. Oats are very scarce and readily bring seventy-five cents per bushel. Hay is worth four and six dollars per ton in the field, and is abundant at that price. Cattle are very high, cows rating at forty and sixty dollars per head; in fact all the surplus stock has been bought up and driven east of the Cascades. A great many people have come into this part of the State from California this summer, being driven out by the drouth, and the general verdict is that if they had known that Oregon was as good a country as it is, they would have been here long since.

THE LAND OFFICE at Walla Walla is in operation. The first day's business was 1,300 acres disposed of.

KALAMA VS. PORTLAND.—*The Walla Walla Statesman* says:—*The Beacon* thinks that Kalama is destined to supersede Portland and become the trading mart of the north-west coast. We have heard this talk of snuffing out Portland for this last dozen years, and yet Portland has continued to grow, whilst many of her rivals have dwindled away to the condition of "deserted villages." We wish the *Beacon* editor every success in building up his town, but if he bases his hopes on the ruin of Portland, then we fear that he leans on a broken reed.

THE HARVEST.—*The Oregonian* published at Portland July 28th says reports from the harvest may be summarized thus: "The late sown grain is nearly a failure; the early spring crops sown is a middling crop, and the fall crop sown is very full. The aggregate yield of the State will be fully up to to that of last year, though less per acre."

FAIR AT WALLA WALLA.—Arrangements are being made for holding an agricultural fair at Walla Walla.

A SEVERE RAIN fell throughout Oregon and Washington Territory last week, from which much damage was at first expected; but telegraphic advices of Tuesday inform us that it was not in sufficient quantity to damage grain, although much hay was seriously injured in many places, particularly in Washington Territory.

THE HORSE.

More About the Percheron Horse.

EDITORS PRESS.—There has been considerable discussion in your columns about the Percheron horse and I quite agree with your correspondents as to the merits of the breed, and am quite certain that it is the best horse of all work in the world; combining, as it does, the weight, bulk and muscle of the draft horse, with the solid bone and sinew, and the courage and nervous force of their Arabian ancestors. The breed is from a cross of Arabian stallions with heavy Norman mares, and the result is a combination of the good qualities of both races—a horse that can draw the heaviest loads and can trot ten miles per hour to a heavy wagon.

Twenty-nine or thirty years ago the first horses of this breed were imported into the United States by Dr. Edward Harris, of Morestown, New Jersey, who introduced two stallions, named respectively Diligence and Industry, and four mares. The horses were dappled greys, and I think the mares also; but am not positive on that point. Their light was about sixteen hands and they seemed nearly as broad as they were long. They were wonderfully active.

In the breeding stud they were very successful—all breeds were improved by an infusion of their blood. Crossed with the blooded mares of New Jersey, they produced powerful and fast roadsters, and they conferred courage and energy on the sluggish draft horse of Pennsylvania.

I think undue importance is attached to the matter of color. An old proverb says "That a good horse is never of a bad color." Rosa Bonheur, the French animal painter, in her picture of this very breed of horses, (The Horse Fair) represents both grays and blacks, and she is known to be remarkably true to life in all her sketches. I am glad they have been introduced on this coast and hope more will be brought here. There is nearly as much difference between them and the English draft horse, as there is between a locomotive and an ox. WM. R. ALDEN.

Anaheim, July 24, 1871.

Sun-Stroke in Horses.

Extremely hot weather is very severe on horses and not unfrequently results in sun-stroke. The Canada Farmer writing upon this matter says:—"We have known of several cases where death was the result, whilst in others recovery took place even after the animal had been completely prostrated for a considerable period. The premonitory symptoms of sun-stroke are dullness and impaired appetite. The horse, although apparently weak, does not perspire freely; the pulse is weak, and the breathing is accelerated. When these symptoms are exhibited, and the horse is still kept at work, he becomes unsteady in his walk, will fall down, and is unable to rise; the pulse becomes very quick, the breathing is labored and the animal becomes almost blind; he will occasionally raise his head and moan.

Such cases are best treated by sponging the head and upper part of the neck in cold water, and also applying ice between the ears for a short time. The body should be rubbed over, and the animal kept as much as possible in the shade. A stimulant carefully administered is of the greatest benefit. A convenient and useful stimulant is four or five ounces of brandy, given in eight ounces of water, or instead, one or two ounces of sulphuric ether in eight ounces of water. The mouth should be washed out every few minutes with cold water, and whenever the animal begins to revive allow him a few mouthfuls of water. An enema of soap and water should also be given. When the horse recovers so far as to be able to stand, he must be kept in a well-aired box, and fed on bran mash for a few days, and made to take a little walking exercise morning and night.

How to Fatten Horses.

Many good horses devour large quantities of hay and grain, and still continue thin and poor—the food eaten is not properly assimilated. If the usual food has been unground grain and hay, nothing but a change will effect any desirable alteration in the appearance of the animal. In case oil meal cannot be obtained readily, mingle a bushel of flax seed with a bushel of

barley, one of oats, and another of Indian corn, and let it be ground into a fine meal. This will be a fair proportion for all his feed. Or the meal of the barley, oats, and corn in equal quantities, may first be procured, and one-fourth part of oil cake mingled up with it when the meal is sprinkled on cut feed. Feed two or three quarts of the mixture two or three times daily, mingled with a peck of cut hay and straw. If the horse will eat that greedily, let the quantity be gradually increased, until he will eat four or six quarts at every feeding, three times a day. But avoid the practice of allowing the horse to stand at a rack well filled with hay. In order to fatten a horse that has run down in flesh, the groom should be very particular to feed the animal no more than he will eat up clean, and then lick his manger for more.

Bran For Horses.

Dr. McClure, V. S., says: Horsemen have not yet learned that most diseases of the horse are characterized by a weak or typhoid condition, and not by inflammatory action. Hence, it is injurious to the horse to have his bowels loosened or blood drawn, as he requires tonics and stimulants, with sound and substantial food. Unlock the bowels of a horse laboring under inflammatory disease even, and he will not stop until death puts an end to his suffering. Feed a healthy grain horse for from two to four days upon hay and bran, and the animal will swell either upon the breast, along the belly sheath or all four legs, and sometimes all can be seen swollen, from the debilitating and innutritious substance called bran; and yet it is expected and believed, though never seen, that bran mashes will prevent disease and cure the sick, and that it is in every way adapted to the horse, sick or well.

The analysis and microscopical examinations of bran now lies before me, made by men, the world is pleased to call scientific and competent; and yet we are, after twenty years' well seasoned experience in the feeding of horses, compelled to say if what is said by them of the nutritiousness of bran is true, it is then in such combination as to render it unfit for food to the horse, sick or well, idle or at work, and he will soon sink from exhaustion if bran enters largely into his daily allowance of food. A little bran with other and more substantial articles may be occasionally given, and not in sufficient quantity to loosen the bowels, nor be counted to the horse as equal to so much of other food, for in doing so you deceive yourself and cheat the horse.

An Ugly Horse Cured by Kindness.

Mrs. S. O. Johnson tells in *Our Dumb Animals* the story of a horse whose task it used to be to drag a meat-cart, and which, because of viciousness, was finally sold to his present owner at a very low price. He would bite, tear, kick, run away—was utterly uncontrollable. Soon after changing masters the people, who had called the purchase a foolish one, were surprised at the difference in the horse's conduct. He would go fast or slow as desired; stop instantly at whom! follow his call, and rub his head on his shoulder. What had made the change? Not force; the poor horse had been beaten, kicked, and starved before; and grown more and more stubborn. No; but he was well fed, well watered; not overdriven or overloaded; never whipped, kicked, or scolded. Kind words were given him, and now an then an apple or lump of sugar. No gentler, safer, more faithful horse went on the road. But, Indian fashion, he forgot neither benefit nor injury. Occasionally, when in harness he saw his former master. Then, invariably, all the fire of his nature was aroused. His eye rolled, he champed his bit, and showed an intense desire to get hold of his former enemy. Only the voice and enervating hand of his kind owner could quiet him.

COUGHS IN HORSES.—A cough is rather a symptom than a disease. It is often caused by the irritability of the air passages, occasioned by previous disease. A chronic cough in horses is often occasioned by indiscretion in the treatment of influenza, distemper, and the disease of the respiratory apparatus. It is, also, one of the effects of liver disease, and sometimes of worms. Too much dry fodder, especially chaff, often aggravates a cough. Carrots and other roots and green feed may be advantageously used. Give your horse a warm stall, with bedding a foot deep, with moist cut food, a little laxative medicine, and not much hard work.

FLORICULTURE.

Ever-Blooming Roses.

Complaint is often made that the so-called "ever-blooming roses" do not bloom fully and constantly all summer—the expectation being that such a result should follow from their title of "perpetual." The New York Horticulturist, in reply to this complaint, says that the class of roses called the Hybrid Perpetual or Remontante is not exactly rightly named—that is, they do not bloom perpetually, but only at intervals. They bloom full in June, and then give a few scattering blooms along during the summer, and a good display again in September, doing better or worse according as they are poorly or liberally treated. This class, however, possesses the most brilliant colors, largest sized flowers of the fullest and finest shapes, and is deservedly very popular. But the true and real ever-blooming roses belong to those classes usually called tender or less hardy roses, such as the China, Tea, Bourbon, Noisette, etc. It may be interesting in this connection to remark that among the—

TEA ROSES, which are best to cultivate are the Gloire de Dijon, Marshal Neil, Madame Brevay and Devoniensis.

NOISETTE.—America, Washington, Woodland, Margarette, Pellenburg, perfectly hardy and profuse bloomers.

REMONTE or Hybrid Perpetual, which are generally exceedingly hardy, many of them being first class bloomers although shy, are the following: Victor, Verdier, Maurice Bernardin, Count Caven, Cardinal Patroijii, Gen. Washington, Madame Victor Verdier, Giant des Batailles, Madame Mason, Jules Margotteu, Princess Mathilde, Leon Verges.

The BOURBON class is undoubtedly the best for small collections, as they are hardy, and, with few exceptions, are constant bloomers. The following are hard to excel: Hermosa, Omer Pasha, Souvenir, Malmaison, Imperatrice, Eugenie, Countess de Brabant, Mme. Bosanquet and George Peabody.

Where our Flowers Come From.

Some of our flowers came from lands of perpetual summer, some from countries all ice and snow, some from islands in the ocean. Three of our sweetest exotics came originally from Peru; the Camellia was carried to England in 1739; and a few years afterwards the heliotrope and mignonette. Several others came from the Cape of Good Hope; a very large calla was found in ditches there, and some of the most brilliant geraniums, or pelargoniums which are a spurious geranium. The verbena grows wild in Brazil; the marigold is an African flower, and a great number from China and Japan. The little daphne was carried to England by Captain Ross, from almost the farthest land he visited toward the North Pole. Some of these are quite changed in form by cultivation; others have become larger and brighter; while others despite all the care of the florists and the shelter of hot houses, fall far short of the beauty and fragrance of the tropics.

Among improved ones is the dahlia. When brought to Europe it was a very simple blossom, a single circle of dark petals surrounding a mass of yellow ones. Others with scarlet and orange petals were soon after transplanted from Mexico, but still remained simple flowers. Long years of cultivation in rich soil, with other arts of the skillful florist, have changed it to what it now is—a round ball of beauty.

ORANGE BLOSSOMS.—In this country orange flowers are worn by a bride on the occasion of her wedding, simply as a fragrant ornament to lead still further grace and beauty to the fair being who is to give herself away for life. In the interior of France, however, these orange flowers are worn as a testimonial of purity, not only of the bride herself, but of integrity and morality in the character of her relatives. In certain provinces its adornment is considered as a sacred right, obtained by undoubted character, and as such proudly maintained.

PLANT PANSIES IN MASSES;—the effect is beautiful. A friend of ours planted a border 400 yards long and 24 feet wide; alternately pansies and cerastiums, with a single row of pyramidal Zonale geraniums in pots at intervals of ten feet. The arrangement was much admired.

FARM NOVELTIES.

An Apple Grown on a Pear Tree.

A specimen of fruit presenting all the external appearances of an apple, was last year grown upon a Tyson pear tree, in the garden of Dr. Lawrence, of Paris, Canada. Dr. Lawrence had a Rhode Island greening apple near the pear tree, and some of the branches of the latter interlaced with those of the former. The pear tree was full of blossoms in the season, but only those interlacing bore fruit. They had all the appearance of apples, so much so, that many who had seen them had supposed there must have been some mistake as to Dr. Lawrence gathering them. Dr. L. had, however, when he first saw them, obtained Mrs. Lawrence's aid in separating the branches, so that there should be no mistake.

The specimens were sent to Mr. Meehan, by whom they were brought to the attention of the Academy of Natural Sciences. In his remarks before that body Mr. Meehan said he regarded them as apples; but on cutting them open, found the seeds to be of the pear. The granular matter characteristic of the pulp of the pear also existed in the carpels, but none in the pulp, which was wholly fibrous, as in the apple; the insertion of the stalk, also, was that of the pear. Instead of the cavity being funnel-form, as in the apple, it was campanulate, as if the stem had been pushed in, carrying the epidermis and pulp with it. He had no doubt that the fruit had the pedicle, carpellary walls, and seeds of the pear, with the granular pear-pulp wanting; but with the fibrous pulp and epiderm of the apple.

How Produced.

As to the law of its production, he disliked speculation, but it would seem that there were two ways in which it might be produced—either by a natural evolution of form, independent of sexual influence, which plants at times exhibited, or by cross-fertilization with the apple. In the latter case, if found true, it would have an important bearing on the question often mooted, whether cross-fertilization affected change immediately in the fruit impregnated, or that change only appeared after the germination of the impregnated seeds. In the case of varieties of Indian-corn, we know the change is immediate; and it was generally believed some cucurbitaceous (gourd-like) plants furnished similar facts; but he thought it had not been known in other plants, especially in the case of species as distinct as were the apple and the pear.

Mimicry in Plants.

An extremely curious Chinese plant, called the Hias-taa-tom-chon, exists in the Flowery Empire. The name of this singular plant means that during summer in it is a vegetable, but that in winter it becomes a worm.

If it is observed closely at the latter end of September, nothing simulates better to the eye of a yellow worm about four inches in length. The apparent transformation takes place gradually, and one can see head, eyes, body, etc., in course of formation.

This plant is extremely rare; it is to be met with in Thibet, and in the Emperor's gardens at Peking, where it is reserved for medicinal purposes. The Chinese say it is a capital strengthening medicine. Attempts are making to acclimatize in South Africa.

There is a specimen of this plant in the possession of Col. Warren, of this city, who has exhibited it at several of our fairs. It is called the "New Zealand Butterfly Plant."

LOCUSTS.—The woods all over the whole "military tract" between the Illinois river and Mississippi, are swarming with locusts. The Stark county Chronicle speaks of their plenteousness in that region, and states positively that two children at Bradford have been stung by locusts, and that one had died and the other gone crazy. Naturalists, we believe, generally deny that the locust has a sting, but say that, while depositing the egg, the locust may be dangerous by depositing its ova in or under the human cuticle.

OVER FEEDING.—Dr. George Sprague, an experienced breeder and observer of domestic animals, in an article in the *Prairie Farmer*, asserts that for every animal that has been injured by overfeeding 10,000 have been injured in their growth and for breeding purposes, by being scantily nourished and insufficiently housed.

New Publications.

THE EYE IN HEALTH AND DISEASE; a Series of Articles on the Anatomy and Physiology of the Human Eye, and its Surgical and Medical Treatment. By B. Joy Jeffries, A. M., M. D. Boston: Alexander Moore, Lee & Shepard. 1871. For sale by A. Roman & Co., S. F.

With regard to the eye, there is but very little information possessed by the general public. Our sight is used with so little consciousness that we do not realize its importance and value till it is impaired or lost. Yet the care of the eye is all important, and with this the old proverb especially holds true, that an ounce of preventive is worth a pound of cure. We can therefore warmly recommend this publication, written by a medical man of high authority, to the public. To a very great number, the articles on old sight and spectacles, and on near-sightedness will prove especially valuable and applicable. The book is well written and fully illustrated.

THE ILLUSTRATED HORSE MANAGEMENT, containing descriptive remarks upon Anatomy, Medicine, Shoeing, Teething, Food, Vices, Stables; likewise a plain account of the Situation, Nature and Value of the various Points, together with comments on Grooms, Dealers, Breeders, Breakers and Trainers; also on Carriages and Harness. With over 400 engravings. By Edward Mayhew, M. R. C. V. S. Philadelphia: J. B. Lippincott & Co. For sale by Dewey & Co., S. F.

We have before spoken highly of the works of Mr. Mayhew (as his "Illustrated Horse Doctor"). This book forms a valuable addition to previous publications. The work is founded simply on common sense applied to the statements made and the facts known concerning the horse. It is written, moreover, in a manner easily comprehended by those styling themselves "practical" men; for its object is to reach those persons actually engaged about horses, and not for mere theoretical reading. If the work runs counter to some notions entertained by many, it explains and proves its statements. As a teacher, therefore, it occupies a high position.

THE ROADMASTER'S ASSISTANT AND SECTION-MASTER'S GUIDE; a manual of Reference for all having to do with the Permanent Way of American Railroads, and containing the best results of experience and minute directions for Track-laying, Ballasting and Keeping the Track in Good Repair. By W. S. Huntington, Railroad Gazette Series. Chicago: A. N. Kellogg, 1871.

The object of this volume is to "correct, as far as possible, certain erroneous practices into which track-layers and section-men have fallen, which practices are fatal to the life of track and rolling stock." Those who have read the columns of our able cotemporary, the *Chicago Railroad Gazette*, will be familiar with the style of Mr. Huntington's writings, which have always struck us as of great value. So this volume, emanating from a wide experience on some of the best, and also some of the worst, managed roads in the country, contains very much of the greatest interest to those for whom it is written. We might call it a book of useful hints, were it not for the fact that "hints" hardly expresses the right worth of the practical facts mentioned. Our trackmen have to a great extent adhered to methods which, although good for the circumstances under which they were introduced, are wrong under new circumstances which have since arisen. The *why* and *wherefore* are shown here in a most convenient form, and the work is one to be recommended to practical men.

A GENERAL TREATISE ON THE MANUFACTURE OF VINEGAR: Theoretical and Practical, comprising the Chemical Principles Involved in the Preparation of Acetic Acid and its Derivatives, and the Practical Details of the Various Methods of Preparing Vinegar by the Slow and the Quick Processes, with Alcohol, Wine, Grain, Malt, Cider, Molasses, Beets, etc.; as well as the Fabrication of Pyroligneous Acid, Wood Vinegar, etc., etc.; together with their Applications, and a Treatise on Acetometry. By H. Dussauce, sometime of the Laboratories of the French Government; author of "A General Treatise on the Manufacture of Soap;" "A Complete Treatise on Tanning, Currying, and Leather Dressing," etc., etc. With Illustrations. Philadelphia: Henry Carey Baird. London: Sampson Low, Son & Marston. 1871. 8vo. pp. 392. Price \$5. Sent free of postage to any part of the U. S.

The manufacture of vinegar has made most important progress of late years, and especially in this country during the late war, when manufacturers were obliged to have recourse to different materials (in part) from what were before used, and its production has, by the aid of science, been greatly cheapened. The above work, which is gotten up in excellent style, gives a full account of the progress of the industry and its present condition. Mr. Baird, in its preparation, has not hesitated to call to his assistance the best chemical talent of the country, and has turned out a work which, besides its own great intrinsic value, is highly creditable to the publisher.

TIME AND ETERNITY. A Poem. By George Mac-Henry. San Francisco: A. L. Bancroft & Co. 1871.

"The typographical execution of this work is certainly most excellent. The printing and binding were all done at Bancroft's establishment, and we have never seen a finer specimen than this on our coast. The "poem" itself, however, is beyond us. So far as our limited perceptions go, it is principally a string of heavy words. Such verses as this, "Whence couriers ministrant succinet appear," meet us on every other page. Some people may like this sort of thing, but we are not up to it."

California Building Timber.

According to the *Alta*, late experiments at Mare Island show that yellow fir, preserved by hydro-carbon oils, is our strongest building timber, so far as known. Calvin Brown, Civil Engineer of the Mare Island Navy Yard, made a number of experiments, taking pieces of straight-grained wood, apparently without flaw or defect of any kind, one inch square and 36 inches long, resting on supports 24 inches apart, and then by weights attached half-way between the supports, ascertaining how many pounds were required to break the pieces.

The results were that California laurel broke under a weight of 387 pounds; oak, 413 pounds; and preserved fir, 462 pounds. The conclusion is that the fir is the strongest wood. But as the paper alluded to dwells on the fact that by the preservation process some considerable increase of strength is attained, and as, apparently, the other woods were not thus treated (preserved), these results must be taken with some modification.

It is stated in this connection that the wooden platforms for heavy guns at Alcatraz, the Pavilion Hospital of the Navy Department at Angel Island, and the new breakwater at San Pedro are to be of preserved wood. It is also stated that Calvin Brown is preparing statistics with regard to the various kinds of building timber on our coast for the use of the Mechanics' Institute—information which will be of great value to the builders and the public generally.

RAMIE.—We yesterday took a look at the Ramie patch of Messrs. Meek & Finch, on Mr. Meek's place near the San Lorenzo creek, and found the plants in a very healthy and thrifty state. Although the plants were set far apart, (six feet we believe,) the ground is well covered with the growth, and some of the plants are five feet in height. These plants were set out last year and from them were taken the plants which were set out on the Hill place, which have not done so well, owing to mismanagement in their planting and cultivation, as Finch informs us. Those competent to judge say that Ramie will be a profitable crop here, when it is properly planted and cultivated.—*Alameda County Advocate*.

CARBOLIZED COMBINATION HOSE.—This hose will soon be tested by the City Fire Department. It is said to be almost exclusively used by the fire departments of New York and Brooklyn, to have given such satisfaction at Marysville that it is to be adapted more extensively there, and to have been most successfully used by the C. P. R. R., the C. Steam Navigation Co., the Cal. Powder works and the Blue Gravel M. Co.

FRUIT DISTILLING.—A Washington telegram, of July 21st, says that E. S. Holmes, the clerk in charge of the section of distillation in the Internal Revenue Bureau, starts for California to-night for the purpose of investigating the manner of fruit distillation in that State. Complaints have recently been made by the vintners of California that the regulations of the Internal Revenue office in relation to that branch of distillation is not applicable to the manner in which it is carried on in that State.

POSTAL MONEY ORDERS.—We see that an arrangement has been effected, by which an international money order system will go into effect on the 1st of next October between the U. S. and Great Britain. The limit of a single money order is \$50. It is said that the same system will be extended to other European countries.

GOOD HEALTH.

Dangers of the New Narcotic—Choral.

There is danger that not a little harm may result from the free use of the new narcotic, or anesthetic chloral. That it has valuable medicinal properties, and it is an admirable sedative, there can be no doubt. But it is one of the most fascinating of narcotics, and the habitual use of it is said to be attended with more and greater evils than almost any other drug of common consumption. It is understood, says the *Boston Advertiser*, that the use of it has become alarmingly prevalent; and it may therefore be well to note a few of the consequences. Eminent physicians say that it aggravates rheumatism and skin diseases, and causes irritation of the mucous surfaces of the nose and throat. It causes a dimness of sight that is most inconvenient, to say the least. A Chicago clergyman lately told his experience with the drug to his physician. For a few nights it was taken for sleeplessness; its effects were very pleasant; then came on a peculiar dimness, or weakness of sight; he had to read with one eye at a time—for a minute or two with each. If one eye was used longer than a minute, the words and letters became blurred and indistinct. The eyes became congested, the lids swollen and partially paralyzed. The tongue had a peculiar appearance; a black streak, like that caused by ink, extended the whole length of the tongue, in its center. The physician who sends this account to the *Chicago Tribune*, says that this peculiar appearance of the tongue is diagnostic. He had observed it in those who have been addicted to chloral eating for only a few days. The habit is, moreover, exceedingly hard to break off, and attempts to do so have resulted in symptoms not unlike those of delirium tremens. One case is reported where a man who took an overdose slept for twenty-four hours, and on awakening found his arms and legs paralyzed. It is to be hoped that these facts will induce the public generally to be very cautious about the new drug, and not to make use of it at all without the advice of a good physician.

Living too Fast.

The deadliest foe to a man's longevity is unnatural and unreasonable excitement. Every man is born with a certain stock of vitality, which cannot be increased, but may be husbanded or expended rapidly, as he deems best. Within certain limits he has his choice to live fast or slow, to live abstemiously or intensely, to draw his little amount of life over a large space, or condense it into a narrow one; but when his stock is exhausted he has no more. He who lives abstemiously, who avoids all stimulants, takes light exercise, never overtaxes himself, indulges no exhausting passions, feeds his mind and heart on no exciting material, has no debilitating pleasures, lets nothing ruffle his temper, keeps his accounts with God and man duly squared up, is sure, barring accidents, to spin out his life to the longest limit which it is possible to attain; while he who lives intensely, who feeds on high-seasoned food, whether material or mental, fatigues his body or brain by hard labor, exposes himself to inflammatory diseases, seeks continual excitement, gives loose reign to his passions, frets at every trouble and enjoys little repose, is burning the candle at both ends, and is sure to shorten his days.—*Ec.*

Picking the Ears.

Dr. Hall says "picking the ears" is a most mischievous practice. In attempting to do this with hard substances, an unlucky motion has many a time pierced the drum; nothing sharper or harder than the end of the little finger, with the nail pared, ought ever to be introduced into the ear, unless by a physician. Persons are often seen endeavoring to remove the "wax" of the ear with the head of a pin; this ought never to be done; first, because it not only endangers the rupture of the ear by being pushed too far in, but if not so far, it may grate against the drum, excite inflammation, and an ulcer which will finally eat all the parts away, especially if of a scrofulous constitution; second, hard substances have often slipped in and caused the necessity of painful operations to fish or cut out; third, the wax is manufactured by nature to guard the entrance from dust, insects, and unmodified cold air, and when it has subverted its purpose, becomes dry, scaly, light, and in this condition is easily pushed outside by new formation of wax within.

Occasionally wax may harden and may interfere with the hearing; but when this is the case, it is the part of wisdom to consult a physician and let him decide what is the remedy; if one cannot be had, the only safe plan is to let fall into the ear three or four drops of tepid water, night and morning; the saliva is better still, for it is softer and more penetrating, but glycerine is far preferable to either; it is one of the blandest fluids in nature, and very rapidly penetrates the hardened wax, cools the parts, and restores them to a healthful condition. If in a week there is not a decided improvement in the hearing, medical advice ought to be had at once, as next to the eye, the ear is the most delicate organ of the body.

How to Grow Lean.

Fat people will be interested to know that Dr. David, of Paris, a "professional emaciator," prescribes a treatment which is intended to diminish *embonpoint* without injuring the health. He directs the patient to live principally on meat, eating little else, and drinking as little as possible. Vegetables, soups, puddings, tarts, fruits, bread, cakes in their protean forms, have carbon and oxygen for their principal bases, and water is the protoxide of hydrogen; all of which substances are the elements of fat. The principal base of meat is azote or nitrogen, which does not enter into the composition of fat, hence lean meat is a good diet for the aspirant after leanness. Carnivorous animals are never corpulent, and pigs are fattened by meal, vegetables and milk, rather than with meat. The smallest possible quantity of liquid is an indispensable condition. It is said that a barber who was at first so fat that he could not walk or lie down, was enabled to lose forty pounds in three months, and to diminish his abdominal equator by forty centimetres. The treatment prescribed for him was a beefsteak or cutlet, a cup of coffee and a very small quantity of vegetables; for dinner, plenty of meat, and little else; and a bottle or a bottle and a half of liquid per day.

CHILDREN.—When a child is hurt, never hush it. It is inexcusable barbarity; it is repressing his instinct, and for this reason if physical punishment is inflicted on a child it is perfect brutality. Cases are on record where children have been thrown into convulsions in their efforts to silence. A thousand times better is it to soothe by kindly words and acts, divert the mind by telling stories, by explaining pictures or by providing it with new toys. We have many a time in our professional experience as to sick children, found more benefit to be derived from a beautiful or interesting toy than from a dose of physic. The greatest humanity a mother can exhibit in respect to her sick child is to divert it, *divert it*, divert it, in all pleasing ways possible, as we ourselves who are larger children, feel sometimes really sick, when a cheerful face and much-loved friend has come in and before we know it we have forgotten what was the matter with us.—*Hall's Jour. of Health*.

THE POISONOUS QUALITY IN RED FLANNEL.—After a series of careful physiological and chemical experiments, by Dr. P. De Marmon, of Kingsbridge, N. Y., communicated by him to the *Medical World*, it was very definitely determined that the cause of poisoning by some red flannel was not in the coralline or aniline dyes, as generally supposed; but in a tin mordant used to fix the color upon the goods. The symptoms produced in the case to which his attention was called, were an eruption, with severe itching accompanied with vertigo. The woman who washed the garment had her arms up to the elbows covered with a red, burning eruption, similar in appearance and feeling to scarlet fever.

EUCALYPTUS CIGARS are being employed by French physicians for diseases of the larynx. It is also proposed that they be employed instead of tobacco by persons to whom that narcotic is particularly injurious. They are made from the leaves, which contains a kind of camphor, peculiar to that tree, and which constitutes their peculiar medicinal value. It is said they have been used with success in cases of asthma. Two or three leaves burned in a room produce an odor which is very soothing to the patient.



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in extraordinary type or in particular parts of the paper,
inserted at special rates.

SAN FRANCISCO:

Saturday, August 5, 1871.

Our Weekly Crop.

The Rice Field still exists in luxuriant growth
at the entrance of our ranch, and claims notice
as our friends pass on their way to see what
has been done in the way of Mechanical and
Scientific Progress since we last met.

From Colorado come some notes concerning
Central City and vicinity. Then we see an ex-
ample of Underground Irrigation, which has
resulted successfully. From Half-Moon Bay
come notes concerning farming operations.

The New England Agricultural Society accom-
panies us on our way to witness the perform-
ances of the celebrated trotter, Mountain Boy,
and to examine our Silk Factory now in Opera-
tion, as well as to visit the Cal. Cotton Growers'
and Manufacturers' Association. And to the
assembled crowd are read the Agricultural
Notes of the week.

We go back to the stables to hear Something
More about the Percheron Horse, and to see
how Horses are Fed and Treated when sick.
The Ever-Blooming Roses and other occupants
of our Flower Garden, an Apple Grown on a
Pear Tree, and several Curious Plants are
shown beside the stables. Here we have a talk
over certain New Publications of interest, con-
cerning Cal. Building Timber and on other
matters, and then visit our doctor, who speaks
about Chloral Hydrate, Living Too Fast, Pick-
ing the Ears, How to Grow Lean, and various
other topics relating to Good Health.

Ascending to our observatory, we are pointed
out some Notable Features of Salt Lake City,
and a Hotel for Invalids, while at the same
time we can see a field of Mesquit Grass. And
hence we see below us some Recent Inventions,
the Progress of the Railroads of the West, and
a section of a Mammoth Tree of California.

We descend to hear the stories of the ladies
and young folks of the Home Circle, and the
more homely proverbs of Domestic Economy.
Then we enter the house to witness the action
of an Improved Sewing Machine, and to see
what aid is given to writers by the Penman's
Assistant. So the day passes with talks on
various matters which concern us all, and the
time arrives for a renewal of our weekly fare-
wells.

CHERRIES—WONDERFUL PRODUCTION.—
We have received through Chas. F. Wilk-
inson, Esq. of the Deaf and Dumb Insti-
tute of Oakland, a remarkable display of
cherries, grown in the nursery of Mr. Seth
Luolling on the Willamette river, near Mil-
waukee, Oregon. This display consisted
of 354 cherries, of the Royal Ann variety,
grown on a single stem of seven-eighths of
an inch diameter and five feet long; the
whole weighing seven pounds.

We have had this remarkable product
photographed, and shall have it engraved
for illustration in the Press. After a short
exhibition of the stem entire at Steele's drug
store on Montgomery st., in order to preserve
so remarkable a specimen as well as possi-
ble, it has been cut into short lengths and
preserved in alcohol, in which condition it
will be exhibited at the coming Fair of the
Mechanics' Institute.

Notable Features of Salt Lake City.

About the first thing that attracts the
attention of the stranger as he enters the
city of the Latter Day Saints is the great
width and regularity of the streets; but
that which makes the best and most favor-
able impression of the city and the people,
is the rows of beautiful shade trees with
which those streets are everywhere lined.

The city is laid out on a grand scale, and
shows that its projectors fully appreciated
all the advantages to accrue to a large city
by adopting the improvements suggested
by modern experiences. While the plan
of the city and its broad streets show good
designing in the founders, being the work
of a few heads, the ornamenting of these
streets—being the work of all citizens—
shows the general good taste of the people
collectively. The streets of all the central
portions of the city are one hundred and
thirty feet wide—fifty feet wider than the
streets of the capital of our State—Saca-
mento; and like the streets of our capital,
they cross each other at right angles.

We did not measure the sidewalks, but
they are correspondingly wide, say fifteen
feet. At the outer edge of the sidewalks
or at their intersection with the street
proper, trees are planted, and along the
line of these trees through every street in
the city runs a small stream of clear, pure
and sparkling spring water. This is a
most attractive and delightful feature;
bringing the most pleasing and life in-
spiring features of nature into immediate
contact with the hurry and bustle of a busy
city life.

As the ground upon which the city is
built is somewhat undulating, the water in
different portions of the same street runs
in different directions. In whatever por-
tion of the city you walk, whether through
the business streets filled with trucks,
wagons, and carriages and all other evi-
dences of trade and traffic, or through the
more retired and quiet portions, these lit-
tle streams of pure water are ever present,
pleasing the eye as they glitter and glisten
in the sunlight, and delighting the ear
with a gurgling music as they run over the
pebbles and play through the ripples, and
around the roots of the trees.

The shade trees are also ever present,
reaching out their limbs to protect you
from the heated rays of a noon-day sun,
while the green sward at their feet offers
you an inviting seat if you wish to rest
your wearied limbs or tarry to hold a mo-
ments converse with a friend.

The black locust is the tree mostly used
for shade and ornament, though now and
then you may meet with the beautiful,
dark green foliage of the morus alba and
moretti, or the white and black mulberry.
These latter kind are by far the most
beautiful and appropriate trees, and seem
best adapted to the peculiar soil and to the
constant contact with the water.

Too much water is fatal to the locust,
and many of the trees of this variety in
Salt Lake show plainly that they are suf-
fering in consequence of too much of a
good thing. The leaf is yellow and the
whole tree shows unmistakable signs of
premature decay. These indications have
been observed by the citizens for years
back, but they were unable to settle upon
a satisfactory cause. We have no doubt
that upon a thorough examination of the
subject the cause will be found in a too great
and too constant supply of water to the
roots.

PROF. W. P. BLAKE writes us from Utah
that he will soon be in this city in all
probability. Quite a number of gentlemen
from California and Nevada, as well as
from other places, are now examining the
mineral resources of Utah,—Senators Nye
and Stewart, Messrs. Head, T. W. Park,
James Selover and others. Moreover,
Commissioner Raymond has been there, but
has left for Montana.

An American Hotel for Invalids.

There is a decided want in this city of a
comfortable and well managed institution to
which Americans and others, particu-
larly strangers from the interior, who have
means to pay their way, can repair, and be
certain of good medical treatment and
nursing. Such people are now compelled
to resort to hotels, which are poor places
at best, for invalids, and always more or
less lacking in most of the essentials needed
by them. We need a HOTEL for in-
valids, where people can repair without
the appearance of seeking charity, and
where they can find accommodations suit-
able for their needs and means.

In view of these facts it is proposed to
found an institution, modelled some-
what after the plan of the *Maisons de Sante*
of Paris.

Such an institution should unite the
qualities of a good hotel and a first-class
hospital. It should be located outside of
the din and bustle of the city, and in the
midst of pleasant, ornamental grounds.

In order that people of different circum-
stances and means may be accommodated—
as at different classes of hotels, it is pro-
posed to establish two such "Hotels," to
be under American auspices and control,
and to be open for the reception and treat-
ment of all invalids willing and able to pay
the charges of board, medical and other
attendance, etc. The plan is for

1st.—A First-Class Hotel for Invalids,

In which the charges would range from \$3
per day for a single room, to \$8 per day
for a suite of three rooms. This hotel
would be fitted and managed so as to
satisfy the most fastidious persons, and
would correspond with the best class of
the Paris "*Maisons de Sante*."

2d.—A Second-Class Hotel for Invalids

In which the charge would range from \$1
per day in one of the large wards, to \$2.50
per day in a first-class single room. For
style and object, this hotel would corre-
spond with St. Mary's, Gorman, Italian and
French hospitals of the city. It would be
the sanitary resort for persons of small or
moderate means—mechanics, small em-
ployés, miners, and the laboring classes
generally; and would, it is presumed, be
very available for such societies, as the
American and British Benevolent, Masons,
Odd Fellows, Redmen, Pioneers, Israelites,
and such like societies, also for such
churches and congregations as have no
private hospitals of their own. The build-
ing could be so constructed as to furnish,
at reduced rates, suites of rooms or wards
to different societies and denominations
where they could minister to their mem-
bers in their own way. They could also
provide their own physicians and nurses,
and obtain, in consequence, a greater re-
duction in the rates.

Both Establishments,

(Either of which could, if thought best,
be founded first and in different localities)
to be managed by a Board of Trustees,
composed of a number of our best business
men. This project, which is submitted to
the consideration of our public spirited
capitalists, could be carried out by an asso-
ciation, which might be known as "The
American Hotel for Invalids' Association."
The capital for such a scheme would range
from \$100,000 to \$250,000, according to
the extensiveness of the plans. We un-
derstand that several of our prominent
citizens have already expressed a willing-
ness to unite with others in an association
for such a purpose.

The above is only an outline of a plan
which might be modified to suit the views of
parties who might take an active interest
in the enterprise. There is no city in the
world, in proportion to its population,
where such an institution is so much
needed as in San Francisco; and mainly
for the reason that this is the only point

on the entire Pacific coast where invalids
especially in the absence of homes and
home associations, can go for proper treat-
ment and care. Aside from the humani-
tarian nature of the proposition, there
is but little doubt but what such an
institution could be made to pay as an in-
vestment. We trust the idea may be car-
ried out, with that liberal and public
spirited enterprise which always charac-
terizes whatever is undertaken by the solid
men of this city.

Mesquit Grass.

Our correspondent, "M. B. S.," in our
last issue made mention of the mesquit
grass now being grown by Mr. J. M.
Hudspeth, of Green Valley, Sonoma coun-
ty. The *Alta* of this city, in copying a
paragraph from that letter takes occasion
to say that it is "informed by a gentleman
who has examined it, that this Sonoma
grass is of no value for pasturage or hay."

The paragraph copied by the *Alta*, and
the truth of which may be verified by any
one who will take the trouble to examine
the field in question, affords abundant evi-
dence of the capacity of this grass for
adapting itself to circumstances, and
maintaining a flourishing condition in
situations where all other grasses, native
of this State, would die out from drouth.

The original package was procured by
Mr. Kimball from a seed store in this city,
in 1862, and sowed upon tule lands on
Middle river, near Venice, the seed there-
from was carefully saved and given to
Mr. Hudspeth, of Green Valley, for the
reason that Mr. S. had more time and bet-
ter opportunity to replant and care for it.
Last year Mr. H. sowed 25 acres, from the
seed of which he has this year sown be-
tween three and four hundred acres besides
selling a large amount for planting else-
where.

We think there can be no doubt as to the
fact of this being one of the most valuable
varieties of the Texas grass, nor as to the
great value which is claimed for it in Cali-
fornia. It is considered, without excep-
tion, the best grass which is grown in
Texas for pasturage. As a further evi-
dence of its value we copy the following
letter communicated by Mr. James A.
Lewis, of Kanawha, West Virginia, and
published in the Agricultural Reports of
1856:—

"In the fall of 1855 I procured sufficient
mesquit grass from Texas to sow an acre of
hill-land on my farm at 'Grotto Dell.' On
comparing it with the Kentucky blue-
grass, orchard grass, clover and timothy,
as cultivated on the same farm, I am in-
clined to rank it as the most valuable of
all, for this section of the country. It
seems to stand the climate well, completely
covering the ground, and springing up
soon after cutting, being less affected by
drouth than other grasses. It also remains
green during the fall and winter, when it
is highly relished by stock. It makes a
light hay, however, but is greedily de-
voured by cattle. I consider this grass as
a most important acquisition."

We are informed by Mr. Gibbes, who
has carefully examined this grass, that it
makes a deep, compact sod, with roots so
interwoven that it is difficult to separate a
piece when taken up, except by cutting
with a knife. Mr. G. thinks it will prove
one of the best protections for levees of
any vegetable production that can be
planted upon them.

CORN ON THE STALKS WANTED.—Parties
who can furnish a few tons of "corn stalks
with rip corn on them," convenient for
shipment to the principal fairs to be held
this season, are requested to send word to
this office. It is wanted by the agent of
Phillips' corn picking and husking ma-
chine, which will beat the world in its
line. One ton or more of picked but un-
husked ears will also be wanted.

THE *Calistoga Tribune* sends us a large
engraving of Calistoga Springs, 1871, as a
supplement. The engraving is good and
shows a live spirit in the management of
this able paper.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING JULY 18TH.

SIDE-HILL PLOW.—Daniel C. Day, San José, Cal.

WELT-TRIMMER FOR BOOTS AND SHOES.—Joseph H. Allen, Wadsworth, Nevada.

FARM GATE.—Michael Barthel, San Francisco, Cal.

APPARATUS FOR SAVING GOLD, AMALGAM, ETC.—George R. Evans, Virginia City, Nevada.

PROJECTILE.—Thomas Hill, Vallejo, Cal.

TRACTION-WHEEL.—Oliver Hyde, Oakland, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Railroad Matters.

Oregon and Washington.

Work seems to be pushing on the Northern Pacific, and we see it announced that the company have difficulty in getting the requisite number of workmen. Some 750 men are employed on the western division, and the 25-mile section is to be finished in October. Besides this, it is affirmed that the road will reach Puget Sound early next summer. Eastern papers say that a good route has been found through Central Dakota, striking the Missouri near the mouth of Hart river. A party is soon to leave Kalama to survey a route from the Yellowstone to the Snake river.

The Portland, Dalles and Salt Lake R. R. project is still being agitated in the Oregon papers, and it is said that Congressional aid will be invoked at the next session.

The Willamette Valley (late Oregon Central or West Side) R. R. Co. is grading and track-laying. That part between Portland and Hillsboro was reported as rapidly progressing at last accounts. Preliminary surveys are being made on the Columbia and Willamette R. R.

On the Oregon and California R. R. work is pushing rapidly, and 180 miles south of Portland are promised to be in running order by the end of the year. A line has been run through Oakland, Douglas county, and the cars are to run into Eugene by the middle of August.

California.

On the California and Oregon road, a large force was put at work in the beginning of June, at Tehama, one hundred and twenty-seven miles from Sacramento, to which point the road was completed last year. The bridge here was to be built in about six weeks, and then grading was to be done up to Red Bluff, with a chance of reaching Shasta this year. The Yreka Journal of July 28th, says: Hood and party, surveyors for the Central Pacific Railroad Company, have commenced preparations for another survey of the railroad route through Shasta valley. It is believed they are now laying out the permanent route, which will run down Shasta river, on the opposite side of the hill east of town, and proceeding along the valley about two miles east of the Little Shasta bridge, or about eight or nine miles east of Yreka.

On July 19th, certificates of incorporation were filed of the Northern R. R., for an "air line from San Francisco to Tehama." The officers are officers of the Central Pacific, who have also organized the San Pablo and Tulare R. R. Co. The rails for the Tehama road are said to have been received.

The great railroad topic of late has been the rumored purchase of the California Pacific by the Central Pacific, or of both by the Pennsylvania Central. The city papers give more credence to the former; Eastern and Sacramento papers to the latter rumor. The California Pacific has stopped work on the Sonoma extension between Adelante and Petaluma, and the survey has ceased on the line between Davisville and Red Bluffs. The southern coast steamship opposition (between here and the southern counties) is also reported purchased by the Central Pacific, and their

vessel has been laid up (temporarily it is stated, but without announcement of resumption of her trips), while fares on the other line have been advanced. It is said that the air-line from Sacramento to San Francisco will still be built, and that contracts therefor have been awarded.

The effect of any such consolidation will have a very great influence on this State. It very likely will lead, among other things, if the Central Pacific is the purchaser, to the more speedy completion of the Southern Pacific, while it will put off the building of some other proposed lines.

The Sacramento Record is informed that the Central Pacific Railroad Company has bought the Placerville Railroad, which extends from Folsom to Shingle Springs, and will take possession of the same immediately.

Humboldt county has a plan for a road from Eureka to Singler's Ferry, on Eel river, to be built by November, and thence to be carried to the mouth of Van Dusen's Fork. For this a subsidy in the shape of a levy of 5 per cent. on the taxable property of the county was asked. This road was to be a link of the Santa Rosa and Petaluma road, which was to extend through Mendocino county to Humboldt Bay. The proposition was voted on at an election held July 29th.

On the Southern Pacific ground has been broken for the branch from a point two miles south of Gilroy to

stated that the Eastern Nevada (Elko to Hamilton) narrow gauge road will be built, the necessary consent of the Central Pacific and of the tax-payers having been obtained.

On July 26th, the first 20 miles of the Utah Southern R. R. had been let, and the track was laid as far as Little Cottonwood.

The Omaha Herald, of June 20th, announced the departure of a party of surveyors to locate a road from Evanston, Wyoming, north along the Bear River Valley, then westerly along the Snake river to Helena and Virginia City, Montana, and thence to tap the Northern Pacific.

Colorado.

The Boulder Valley road was to be graded to Boulder Valley by the end of July. The Denver and Rio Grande is pushing rapidly, the delay in receiving the iron being the only drawback. This road is attracting very great attention on account of being of narrow gauge. From the Denver Tribune we learn of a new 3-foot gauge road, the Kansas Central, which is to run from Leavenworth, Kansas, to Denver.

According to the Central City Register, the matter of a road thither from Golden is rapidly assuming shape. The U. P. R. will build it if Gilpin county will vote bonds to the amount of \$250,000. Concerning several Colorado roads, the letters from W. H. M., which we have lately

moth tree in the Calaveras Grove. The human figures will give some idea of the relative size of the monster.

The Calaveras and Mariposa groves are the best known to tourists. The latter has one tree, the Grizzly Giant, which surpasses in many respects any which we have seen. The Calaveras grove is, however, perhaps the more enjoyable. The excellent hotel of Messrs. Perry & Sperry (we do not care to puff such things generally, but every one praises this) is situated directly at the grove, so that one can enjoy the grove at leisure. Here are said to be 103 trees of goodly size, twenty of which are about 75 feet in circumference, in a comparatively small area. We shall not give many statistics, for we find that figures alone carry too little idea of the reality. Suffice it to say, merely, that the now fallen "Father of the Forest" is estimated to have been at least four hundred and thirty-five feet high.

There is another grove—the south grove—about six miles off, which is said to be larger than the one near the hotel.

California has a number of such groves, the most definite statements of which are to be found in the publications of our State Geological Survey. Our impression is, that a grove in Tulare county is said to have the finest trees. Space forbids our enlarging on the topic, to which, however, we may recur hereafter.

*Our illustration is from the Scenes and Wonders of California, by J. M. Hutchings. A. Roman & Co., Publishers, San Francisco.

A Great Orchard.

A few days ago it was our pleasure to visit the orchard of John Briggs, located about two miles south of Yuba City, in Sutter county. The proprietor is the owner of 426 acres, mostly bottom land, lying along the west bank of the Feather river. The soil is a rich, sandy loam, and composed of the yearly deposits of the river many years ago. Before reaching the orchard proper, we rode through a field of 150 acres of castor beans, which field is to give place to a new orchard next year, the fruit trees for the same at present growing in a nursery containing 25,000 one-year-old budded peach trees, 16,000 plum trees, 6,000 Eastern walnuts, 25,000 California walnuts, 2,000 apple trees, 500 Italian chestnut trees, etc. Passing along through this, we arrived at the present peach orchard, consisting of 600 trees, two years old, and some of them bearing this season 150 pounds of peaches. These trees have made a remarkable growth, owing to the rich ground upon which they are planted, and in another year will make a tremendous yield of fruit. Passing the peach orchard, we reached the apricots, 2,200 in number, which are also two years old, and have borne a fair crop the present season. We next rode into the cherry orchard, containing 3,000 of most thrifty young trees. The different varieties, 15 in number, gave this orchard a variety of aspect. These cherry trees were all imported from Rochester, N. Y., about three years ago. Off to the south of this wonderful wilderness are 2,500 plum trees of twelve varieties, and 500 apple trees, mostly of winter varieties. On returning from the orchard by the wagon road we had entered, we visited Briggs Brothers' steam power castor oil mill. Here we found a magnificent hydraulic press, with 80 pound pressure, and possessing a capacity of compressing 300 gallons of oil per day. The mill also contained 20 tons of castor beans, and 2,500 gallons of oil ready for market.—Marysville Standard.

CALIFORNIA BUTTER IN NEW YORK.—A small arrival of California butter in New York, a short time ago produced quite a sensation among the Gothamites. The Tribune, in speaking of it, said:—"It was in two pound cylindrical rolls of fine grass color, waxy and high flavored, such as our State will produce one month from now. It has not been sold, but would readily command 50 cents per pound for its novelty, if not its real merits. Despite the disadvantages of climate, California is now making a quality of butter and cheese that will successfully compete with ours."



SECTION OF MAMMOTH TREE.

Watsonville and Castroville. Commissioners have been appointed at Washington to examine the 20-mile section already completed.

A party of railroad men interested in the Atlantic and Pacific R. R. have gone over the line surveyed along the coast from this city southwards, and are reported favorably impressed with the project. They say that the road will be built if local assistance is given.

In the middle of June, work was recommenced on the San Joaquin Valley road, by building a bridge over the Tuolumne, at Modesto, and grading on towards the Merced river. The bridge with approaches is 1,320 feet long. Track was laid across the bridge on July 19, at which time 15 miles of road beyond the river were ready for the rails.

On the Stockton and Visalia road three or four hundred men were at work at last accounts. The Modesto News has said that the C. P. R. were to build a branch road from that town eastward towards the Sierra.

The Antioch Ledger has published a report of the surveyors of the proposed Antioch and Visalia R. R., which, the paper asserts, will be built with the aid of Eastern capital.

Nevada—Utah—Wyoming.

On the Virginia, Carson and Reno Railroad the final survey was finished, and grading commenced, at the beginning of July, at the Reno end. On the 18th, 400 yards of track were laid; and by the middle of October the road is to be in running order from Reno to Steamboat Springs. A large force is at work on the bridge over the Truckee.

The Reno State Journal states "on good authority" that the narrow gauge road from that place to Virginia City will yet be built. A narrow gauge from Reno, via Carson, to the Cerro Gordo mines, and one from Reno via Beckworth's Pass to Plumas county, Cal., are proposed. It is

published, give very considerable information.

The Mammoth Trees of California.*

Tell a Bostonian that, if he will build an addition on top of his cherished Bunker Hill monument, so as to increase the height of this structure about one-half, he will get an edifice as tall as some of our Big Trees,—tell him this and he will consider you an excellent joker and much given to stories which ought, according to an old-time and popular saying, to be reserved "for the marines." Yet one would be sufficiently near the truth in making such a statement, which, moreover, would give people at the "Hub" some adequate idea of the height of the giants of our coast.

To give a real perception of these monarchs is a difficult task. We have given in private letters to our friends the various dimensions without producing any visible impressions. The last time we were at the Calaveras Grove, we adopted the suggestion of a friend, which resulted more successfully. We passed a thread, as high up as we could reach, around the trunks of some of the trees standing, cut it off just the circumference obtained, and sent the lengths to a few Eastern curiosity-collectors of our acquaintance, giving the facts. These people laid out the threads in as near a circle as practicable and thus obtained an idea of the size of the trunks. Knowing our undoubted veracity, they could not but be astonished.

For the benefit of our readers, to whom we can send no such evidences, we give today a representation of a section of a mam-



Scatter Out Your Crumbs.

Amidst the freezing sleet and snow
The timid robin comes,
In pity drive him not away,
But scatter out your crumbs.

And leave your door upon the latch
For whosoever comes;
The poorer they more welcome give,
And scatter out your crumbs.

All have to spare, none are too poor,
When want with Winter comes;
The loaf is never all your own,
Then scatter out the crumbs.

Soon Winter falls upon your life;
The day of reckoning comes;
Against your sins, by high decree,
Are weighed those scattered crumbs.

Beautiful Babyhood.

EDITORS PRESS:—Biddy has been making an awful piece of work this morning. She says some big lubberly fellow has been playing truant from school, when he ought to have stood to be flogged; and he has been a trespassing upon your "Home Circle," and villifying her blessed babies. What makes her the madder is that the fellow has sent her an anonymous letter, so that she cannot go after him to pull his ears; but Mr. Editor, if you will only just tell her who he is, and where she may find him, if it is a thousand miles away, she'd go after him, you bet, and make him squeal like the awfulest young one you ever set eyes on. Why Biddy says the fellow must be a perfect blockhead to prate about babies in the like of such language as she never heard before; and may all the Saints protect her from ever hearing again.

The fellow pretends to be a scholar too, and would make us believe he has a marble Venus—marble Venus, indeed, she would like to pound him with his marble. He is nothing better than an impostor. It will cost ten times more than he will ever be worth to get a life-size marble Venus, and he need not think to fool her. In fact, Biddy has formed a very low estimate, not only of her effeminate character, but of his total ignorance of what he writes about. She is a great deal better scholar than him, and can prove it too.

The position she took is this, and if she does not aim or attempt to express it in musty old classic language; still, if she has common sense on her side—and she knows she has—she thinks there is no mistake, that she has the best of the argument. In fact, she thinks she has read in the good book, if she could only recollect the exact words—that all beauty is not the same beauty. There is the beauty of the horse, the antelope, the lion, the leopard, and the bird; and there are myriads of beauty in animate and inanimate creation. "One star differeth from another in beauty," and yet all are the perfect work of God—so likewise there is the beauty of babyhood, of youth, of maturity, and even of old age; each has its own lines of beauty, shown in every relation, and designedly so by the great Creator himself.

A baby is beautiful with all its rounded dimples, fat shoulders, chubby arms and legs, and tiny hands and feet, and big, staring eyes, laying up its treasures of observation to develop the embryo intelligence which will grow with the growth, beautiful in the texture of its alabaster skin, beautiful in everything that is in harmony with itself, beautiful because it is short and chubby, because it belongs to the age that demands such proportion, such texture of skin, and as the French would say, such *tout ensemble*.

As it develops and attains the stature of either man or woman, its proportion, expression and everything appertaining to the natural, are quietly modeled and remodeled by the hand of Providence, who saw in the beginning that what was beautiful in man and womanhood, would not be beautiful in infancy or growth.

The idea of magnifying a baby to the height of a man, is alike contrary to nature, utterly preposterous and unphilosophical, and such arguments are a libel upon the laws of beauty devised by Him, "who hath done all things well." A. F. G.

Sacramento, July, 1871.

How to Choose a Canary.

Our lady readers are often called upon to choose a canary—a dainty that is often performed, hap-hazard, or without the exercise of any special judgment. The following hints from "Cassel's Book of Birds" may perhaps be useful to some of our readers, in that direction: "First, entirely green birds, or such as are brightly marked with green, are usually very strong, and in consequence, their voice is often disagreeably loud. Secondly, such as are of a yellowish brown or dark yellow, are weakly, and seldom breed. Thirdly, the variegated kinds do not often have prettily marked young. Fourthly, such as have red eyes are weak. And, fifthly, should birds with a crest be preferred, the purchaser must be careful that there are no bare spots on them.

In order to ensure a good singing canary, it is necessary to procure such as have parents gifted in that respect, and during the course of instruction the bird should not be allowed to hear the song of other birds, as the notes which it would thus acquire would be unnatural, and therefore soon forgotten.

In Andreasdorf the people are most careful only to allow the young to copy the notes of such male singers as are experts in the art, as should the little pupil, even when four years of age, hear a bad singer, it is pretty sure to imitate all its faults, and even in old age will sometimes retain this tiresome trick. The canary will learn tunes played upon an organ with little difficulty, but after a time often perform them inaccurately. We have tried the experiment of placing the pupil with two old males, and have always found it prefer to imitate the bird whose song gives it the least trouble, and thus it acquires shakes and trilling notes with much greater ease than the flute-like tones or deep rolling song of the nightingale."

Dogs, Socially Considered.

As so much has been said against "Carlo," we offer the following in rebuttal, from the pen of Dr. John Brown, of Edenburg, who, of all writers, has written the most hearty and delightful appreciation of dogs:

"I think every family should have a dog. It is like having a perpetual baby; it is the plaything and irony of the whole house; it keeps them all young; and then, he tells no tales, betrays no secrets, never sulks—asks no troublesome questions, never gets into debt, never comes down late to breakfast, is always ready for a bit of fun, lies in wait for it, and you may, if choleric, to your relief, kick him instead of some one else who would not take it so meekly, and, moreover, would certainly not, as he does, ask your pardon for being kicked."

Next to a merry child, we do not know so good and healthful a companion for a melancholy man as a dog. He does not call over the roll of your ails, with dolorous intonation, nursing and petting them by recital, nor does he anger you by combating your splendid fancies. He just ignores them so innocently that you ignore them too. If, after a convivial evening, you awake with a pound of lead in the epigastric region, spiders in your eyes, and mephitic vapors coiling through your brain; if the day looks cold, and dark, and dreary, and you feel half inclined to try the "bare bodkin" remedy, rather than grunt and sweat under a weary life, just draw on your clothes, and open the door to your dog. See what a delicious good morning he has for you. How he leaps upon you and sprinkles you all over with cool fragrant dew, which he has brushed from lilies and violet-borders! How his eyes flash, and his tail wags like an excited pendulum, as he winds up his welcome with a series of acrobatic somersaults.

Display of Foolish Women.

A writer in a late number of the *Phrenological Journal*, endeavoring to answer the question—"What makes Women Unhappy?" says: At all the watering places and seaside resorts there has been a noticeable decrease in beaux; daughters, chaperoned through empty parlors, look in vain for that necessary commodity, suitable gentlemen attendants, while planning mammas grow frantic over the hopeless task of husband-hunting; night after night these daughters attire themselves in the costumes remarkable for their scantiness in one direction and an abundance in the other, and expose their persons unblushingly as they tread the mazes of the voluptuous dance in the arms of any worn

'roue' that happens to be on hand. The extravagance of these women keeps all honest marriageable men away from their presence; they are afraid to go even for a few weeks' pleasure where they are liable to be tempted to marry women whom they could not possibly support, and so they stay at home, wishing all the time they could find some sensible girl who would be content with competency. I wish I could tell those wretched girls how many solid, substantial men are at their places of business in summer, kept at home by their thoughtless conduct, and how many well-meaning, moderately cultured men are wishing every day for new wives but see no chance in the present state of society; they don't care to wed women whose eyes are familiar with fashionable indecencies, and whose tastes are willing to let unclean men handle their persons in the waltz, or gaze with pleased eyes upon their naked arms and shoulders.

The New Teacher.

Some few years since one Mr. Wilton, then a very young and boyish-looking man, was engaged by the district committee to teach in a district in Cantonville, Rhode Island. As he was a stranger and not known by any of the pupils, the thought occurred to him to create a surprise. Accordingly when the day came for "opening school," the pupils assembled early, and as usual with them went through the formality of drawing seats. This had just been completed when Mr. W. arrived at the house—a little fellow, so small as not to awaken a suspicion that he was the teacher. They all thought he was a strange scholar, as he had books under his arm, and talked before him freely about the expected pedagogy. Nobody spoke to him for some time, till a beautiful girl about thirteen, with a face beaming with good nature, came to him, and with a blush, asked him if he had chosen a seat. He informed her that he had not, when she assured him confidentially that the seat next her was vacant, and that she should like to have him "set by her." He assured her from her appearance there was no one in the school he should more like to sit by, but he should be compelled to make other arrangements. He accordingly called the meeting to order, and to the astonishment of all, announced himself the teacher—to the disappointment, also, of the little girl who wished him for a neighbor. But this latter was relieved in a few years when she became his wife, and he verified his prophecy of "setting more by her than any other girl in school."

What to Teach Children.

"Take not the Life you cannot give."

Every observer of children must, I think, have noticed that much cruelty is committed by them from the merest thoughtlessness. It would be perhaps not easy to define very philosophically how it is that children so often act with cruelty to the world of life around them. The poor crushed fly, the wretched, pelted kitten, the tortured cockchafer—all rise familiarly enough to our memories, as instances of this unthinking wantonness, this early and miserable misuse of our mysterious-given lordship over the creatures around us. These things, however, (account for them as we may), most certainly exist, and most certainly lead onward to cruelty more or less deliberate in after life. Wantonness is the child, if unchecked, is sure to deepen into cruelty, or at any rate, indifference to it, in the youth and the man.

If this is true, however on the one hand, it is as certainly true on the other that few things can be taught more easily or learned more readily than tenderness and mercy to the animal world, if the teaching begins early enough and is conducted in the right way. Give a child a little insight into the habits and characteristics of some of the members of that varied though lowly domain of creation which is most immediately at the mercy of childish cruelty,—bring out the conception of each poor fluttering or crawling thing being an individual, and having its own individual sufferings, and often showing its own pity-moving apprehensions,—and children, even at a very early age, will show in return an interested tenderness, and consistently maintain it as they grow up.

DEFENDS THE BABIES.—A correspondent, in another column of this page, takes exception to an article which appeared in our issue of July 15th, under the head of "Babies not Pretty." We should not dare to tell that woman her baby was not handsome.

YOUNG FOLKS' COLUMN.

Poetry for the Boys.

The boy who does a stroke and stops
Will never be a great man be:
'Tis the aggregate of single drops
That makes the sea, the sea.

The mountain was not, at its birth,
A mountain, so to speak;
The little atoms of sand and earth
Have made its peak, a peak.

Not all at once the morning streams
The gold above the gray:
'Tis thousand little yellow gleams
That make the day, the day.

Not from the snowdrift May awakes
In purples, reds and greens:
Spring's whole bright retinue it takes
To make her queen of queens.

—Alice Carey.

Something for the Boys.

"I shall never forget," says one, "an incident of my boyhood, by which I was taught to be careful not to wound the feelings of the unfortunate. A number of us school boys were playing by the roadside one Saturday afternoon when the stage coach drove up to the neighboring inn, and the passengers alighted. As usual, we gathered around to observe them. Among the number was an elderly man, who got out with much difficulty, and when on the ground he walked with his feet turned one way and his knees another, in a very awkward manner. I thoughtlessly shouted—'Look at old rattlebones!' The poor old man turned his head with an expression of pain which I can never forget.

"Just then, to my surprise and horror, my father came round the corner, and immediately stepping up to the stranger, shook his hand warmly, and assisted him to walk to our house, which was but a little way off. I could enjoy no more play that afternoon, and when the time came I would gladly have hid myself, but I knew it would be in vain, and so tremblingly went into the sitting room. To my great joy and relief the stranger did not seem to know me again but he remarked presently to my father as he introduced me; such a fine boy is surely worth having."

"How the words ent me to the heart! My father had often told me of a friend who plunged into the river to save me as I was drowning when a child, and in consequence of a cold then taken, had been made a cripple by rheumatism; and this was the man I had made a laughing-stock for my companions!"

"I tell you, boys and girls, I would give a great deal to have the memory of that event taken away. If ever you are tempted as I was, remember that no good can come of sport whereby the feelings of others are wounded; you may be laying up painful recollections that will not leave you for a lifetime."

BOYS USING TOBACCO.—A strong and sensible writer says a good sharp thing, and a true one, too, for boys who use tobacco. It has utterly spoiled and utterly ruined thousands of boys. It induces a cripple by rheumatism; and this was the man I had made a laughing-stock for my companions!

A LITTLE HERO.—A boy in the town of Weser, in Germany, playing one day with his sister of four years old, was alarmed by the cry of some men who were in pursuit of a mad dog. The boy suddenly looking round saw the dog running toward him, but, instead of making his escape, he calmly took off his coat, and wrapping it round his arm, boldly faced the dog, and, holding out the arm covered with the coat, the animal attacked it, and worried the coat, until the men came up and killed the dog. The men reproachfully asked the boy why he did not run and avoid the dog, which he could have done so easily. "Yes," said the little hero, "I could have run from the dog; but, if I had, he would have attacked my sister. To protect her, I offered him my coat that he might tear it."

THE WOMAN OF MASSACHUSETTS pay taxes on \$132,000,000, nearly one-tenth of all the taxable property of the State.

DOMESTIC ECONOMY.

Hemlock a Rat-Proof Wood.

If the following is reliable it should be more generally known. We find it copied into an exchange, without credit; so we are compelled to pass it along, if at all, in the same manner. It is well worth verification if possible. We copy as follows:

Being surrounded by rats, writes a correspondent, I found it necessary to keep fruits, butter, cheese, and other articles in boxes made of hemlock, not the *Conium* of the botanist, but the *Abies Canadensis* of the arborist. In these boxes I could keep the most toothsome delicacies in the cellar with impunity, even though the box afforded free ventilation, which, in many cases, is highly necessary. To test the matter still further, I made a box of dry hemlock boards perforating each end of the box with a $\frac{7}{8}$ inch circular hole. Into this box I put a large healthy rat, caught in a hemispherical wire trap, nailed it up securely, put it in a dark quiet place, and awaited the result. On inspection at the end of 24 hours, I found he had scarcely more than touched the wood. I returned the box leaving the rat to his cogitations, which horn of the dilemma to choose. At the end of 48 hours I made him another visit. He had evidently come to the conclusion that remaining inactive was to strand upon Scylla, while the effort to buy his liberty could do no worse than wreck him upon Charybdis. He had enlarged the hole sufficiently to get his head out, in which condition I found and dispatched him on the third morning of his incarceration.

How to Cook Tomatoes.

The tomato is a vegetable that it is difficult to spoil, and it is generally acceptable even when rudely cooked. It is capable of so much change in the cooking as to afford a pleasing variety. One way of stewing tomatoes is to choose very ripe ones, skin and slice, rejecting any hard parts. Put in a pan with salt, butter and pepper, and very slightly cook, not more than ten minutes.

Another way is to stew tomatoes until thoroughly soft, rub them through a sieve and then cook them down to the desired thickness. Butter, salt and pepper, are the usual seasoning. Those fond of the flavor of onions will find the addition of chopped onions while cooking, to make an excellent variety. Baked tomatoes are fine; choose large fruit, and cut out a cavity at the stem end; fill this with a mixture of powdered crackers or bread crumbs, butter salt or other seasoning, set on a pan and bake until done. If managed carefully, the tomatoes retain their shape. Tomatoes may be broiled; cut them in halves cross wise and put them cut-side down upon the gridiron over the fire. When the cut surface is seared, turn them and put butter, salt, etc., on each, and cook with the skin side down until done.—*American Agriculturist*.

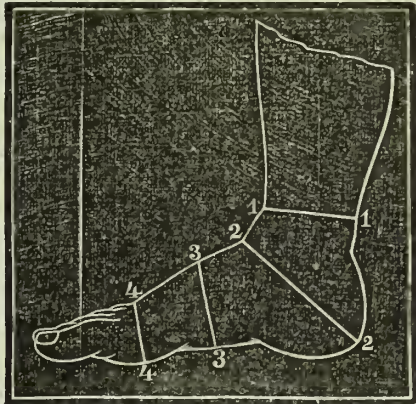
AIR THE BEDDING.—The desire of an energetic housekeeper to have her work completed at an early hour in the morning often causes her to leave one of the important items of neatness undone. The most effectual purifying of beds and bedclothes, cannot take place if a seasonable time is not allowed for the free circulation of pure air to remove all impurities which have collected during the hours of slumber. At least two or three hours should be allowed for the complete removal of atoms of insensible perspiration which are absorbed by the bed. Every day this airing should be done, and occasionally bedding, constantly used, should be carried into the open air, and when practical left exposed to the sun and wind for half a day.

A NICE SUMMER DRINK.—For the hot weather a delicious drink—soda cream—can be made in this wise: Two and a half ounces of tartaric acid, three pounds of white sugar, two quarts of water, white of three eggs, one teaspoonful of sassafras, lemon, vanilla, pineapple, or any flavoring essence one desires; put the acid, sugar and water together in a porcelain saucepan, and let it just come to a boil; add the whites of the eggs, beaten to a stiff froth; boil it just four minutes, stirring it every moment; strain; add the essences when cold; bottle tightly. When it is desired for use, turn two tablespoonfuls of it into half a tumbler of ice water, add to it one-third of a teaspoonful of soda, stir up and drink as soon as it foams. This makes a delicious drink, and is not expensive.

A New Way of Making Cheese.

In conversation, recently, with an intelligent gentleman, one interested in all farm processes and practically familiar with many parts of farming, he related the manner of making, or rather pressing, cheese, practiced by a neighbor of his—a woman skilled in household economy and famous for her nice cheese. With the number of cows usually kept, it takes three days to make a cheese. Her former method was to run up a curd each morning, keeping them until the third day, then mixing old and new curds together, and putting them into the hoop and pressing. Her practice is now to run up the curd and put it into the press at once, the hoop being about one-third full. The next morning the second curd is run up, that which was in the hoop was taken out, the cloth changed, placed in the hoop again, the top of it then scratched or broken with a fork, and the second curd put in, when it is again placed in the press, where it remains all day. The third morning's curd is then run up, the cheese taken from the press, turned, the surface hacked up with a fork, and the third curd again sliced on, bringing the first curd in the middle of the cheese. It is then pressed sufficiently, taken out and placed in the curing-room. By this process the work each morning is cleared away, and a good sized cheese is produced of superior quality, and one as firm and solid as if all were placed in the hoop at once.—*Etc.*

It is often very convenient for a person on account of distance or sickness to have the measure of his or her foot taken by a friend and sent to the shoemakers instead



of going in person to be measured. By consulting the following diagram and directions this may readily be done:

DIRECTIONS.—First place the foot on a piece of paper and trace the outlines of the same with pencil, which will give the length and spread of the foot; then make the following measurements in inches, and fractions with tape. Measure as shown on diagram above:

1st, Ankle. 2d, Heel. 3d, Instep. 4th, Base, or Ball of the foot, or toes.

Shoemaker's Measure.—It may also be interesting with the above, to be made acquainted with the following facts in connection with the shoemaker's measure of sizes: No. 1 is $4\frac{1}{2}$ inches in length, and every additional number $\frac{1}{4}$ of an inch more, but only for children's feet. For adults, No. 1 is $8\frac{1}{2}$ inches, and every additional number $\frac{1}{4}$ of an inch more, so that No. 10 is $11\frac{1}{2}$ inches.

A Russian Method of Preserving Fruit.

A method of preserving fruit, quite frequently adopted in Russia, consists in slacking fresh lime by sprinkling it with water and adding a little creosote. The fruit is to be packed in wooden boxes, with a layer of prepared chalk powder of an inch in depth at the bottom. This layer is to be first covered with a sheet of paper, and upon it the fruit is to be laid so as not to touch each other. On the first layer of fruit another sheet of paper is placed, with the lime-powder sprinkled over it, and a sheet of paper over this; upon this another layer of fruit is spread, as before, and the process continued until the box is full. The corners may then be filled with charcoal. If a tight cover is put on the box, the fruit, it is said, will maintain its sweetness for at least a year.

BOILING ONIONS.—A contemporary says, in boiling onions or cabbage, place a dish of vinegar on the stove at the same time. The fumes of the vinegar, which need not be made unpleasantly strong, will effectually destroy the odor of the vegetables.

Domestic Receipts.

TO COOK EGG PLANT.—Pare the fruit, cut it into slices a third of an inch thick, salt the pieces and stack them upon a plate. In an hour or two they will have parted with considerable water. They are then to be dipped in egg and sprinkled with cracker crumbs and fried. Serve very hot.

TO COOK VEGETABLE OYSTERS.—A writer in an agricultural exchange says: "Our plan is, to wash them, scrape them, and slice them into cold water, so they will not turn black. When you are ready to cook them, put them into sufficient water to cover them; stew till soft, then add as much sweet milk as you like; season with salt and pepper; stir a tablespoonful of flour into as much butter as you need to season the dish; put it into the pan and let it boil up once, and it is ready to serve. Put in a slice of toast if you like."

AN EXCELLENT AND ECONOMICAL PUDDING. Pare and core half a dozen easily cooked apples, chop them into small bits; dry some bread in the oven—stale is the best—till it is crisp, then roll it into crumbs; butter a deep dish and place in it a layer of crumbs; then put in the apples, with a little sugar, and such spices as you like; cover the apples with another layer of crumbs, and so on, adding a little beef suet, chopped as finely as possible; pour in half a pint of milk; bake till nicely browned, and serve with hard sauce. Having many times made this pudding in our own family, we can speak advisedly of its excellence.—*Germantown Telegraph*.

GRAHAM FLOUR MUFFINS.—One pint of sour milk, a small teaspoonful of soda, one tablespoonful of sugar, Graham flour enough to make a thick batter. Bake in rings, or drop the batter in spoonfuls on a square tin. A little salt should be added to the batter before baking.

BOILED CORN BREAD.—Two cups of corn meal, one cup of wheat flour, half a cup of brown sugar, one pint of sour milk, one and a half teaspoons of soda, one teaspoon of salt; mix well. Put in a well-greased tin pail, cover tight and set in a kettle of boiling water; cover and boil two hours.

Mechanical Hints.

TO STAIN IVORY OR BONE BLACK.—Add to any quantity of nitrate of silver (lunar caustic,) three times its bulk of water, and steep your ivory or bone in it; take it out again in about an hour, and expose it to the sunshine to dry, and it will be a perfect black.

TO STAIN IVORY OR BONE GREEN.—Steep your work in a solution of verdigris and sal-ammoniac in weak aqua fortis, in the proportion of two parts of the former to one of the latter, being careful to use the precautions mentioned for staining red.

TO STAIN IVORY, ETC., BLUE.—Stain your material green according to the previous process, and then dip them in a strong solution of pearlsh and water.

TO STAIN IVORY, ETC., YELLOW.—Put your ivory in a strong solution of alum water, and keep the whole some time nearly boiling; then take them out and immerse them in a hot mixture of turmeric and water, either with or without the addition of French berries; let them simmer for about half an hour, and your ivory will be a beautiful yellow. Ivory or bone should dry very gradually, or it will split or crack.

TO SOFTEN IVORY.—Slice a quarter of a pound of mandrake, and put in half a pint of the best vinegar, into which put your ivory; let it stand in a warm place for forty-eight hours, and you will then be able to bend the ivory to your mind.

STAINS IN IVORY.—There is no method of removing stains from ivory equal to hot lime wash; and on the finger-board of a piano, or organ, or harmonium, you can only do it with removing them. If ornamental work, be careful they do not split. The best way is to put them in hot water; then, when cold, place them in slack lime a little bit wet, and let them and the lime dry together slowly.

WAX IMPRESSIONS.—Saturate your plaster casts with boiled oil, dry thoroughly, and before putting in the mould damp the surface with olive oil, removing any excess with a bit of clean cotton wool. Do not raise the wax to a temperature much beyond the melting point, and pour steadily on one point, so that it will flow freely and evenly over the surface; these precautions will effectually prevent air bubbles on the surface you intend to deposit upon.

THERE are neither furniture manufacturers, nor manufacturers of musical instruments in the State of Texas.

LIFE THOUGHTS.

GREATNESS of mind is always compassionate.

FEAR anticipates and magnifies future evils.

WISCONSIN is now the great iron producing State of the Union.

THE moment man gives way to inordinate desire, disquietude and torment take possession of his heart.

HEAVEN help the man who imagines he can dodge enemies by trying to please everybody.

A GOOD word is an easy obligation, but not to speak ill requires only silence, which costs us nothing.

TALENT, alone, is only the rough metal; it is diligent industry which works it, and ascertains its value.

MISFORTUNE, like a storm in traveling, gives zest for the sunshine, freshness to the prospect, and often introduces an agreeable companion for the remainder of the journey.

THE heart of a wise man should resemble a mirror, which reflects every object without being sullied by any.

VIRTUE has this happiness, that she can subsist of herself, and knows how to exist with admirers, partizans and protectors.

WHATEVER is done by those around you, be yourself fully determined to walk in the most excellent way.

EXPERIENCE teaches, it is true, but she never teaches in time. Each event brings its lesson, and the lesson is remembered; but the same event never occurs again.

Influence of Example.

Men's lives are pages of history. Those who read are stimulated to good deeds thereby, or taught to avoid the mistakes such lives record. There cannot be too much said, or written, to encourage men of wealth to devote their leisure and money towards developing the beautiful in Nature, recovering and regenerating waste places, and affording men with less means and opportunities for the study of rural art. The influence of an example of good taste in the adornment of a single place in a neighborhood or town, reaches far into the future and molds more than most men think, the external features of that neighborhood or town, and affects more ultimately the lives of those whom it influences. If one man plants a tree his neighbor wants one. If one housewife has a flower *parterre*, another is not insensible to the enthusiasm with which the first exhibits and praises her floral pets. If one man sees his neighbor clearing out an old swamp, a ravine, or a rough place of any sort, and converting its rude angularities into symmetrical lines of beauty, he ever after looks upon the rough places of his own domain with the possibilities of what it may become in his mind's eye, and realizes, sooner or later, the ideal beauty which the realization of his neighbors have established.

SHUN EVIL SPEAKERS—Deal tenderly with the absent; say nothing to inflict a wound on their reputation. They may be wrong and wicked, yet your knowledge of it does not oblige you to disclose their character, except to save others from injury. Then do it in a way that bespeaks a spirit of kindness to the absent offender. Be not hasty to credit evil reports. They are often the result of misunderstanding, or evil design, or they proceed from an exaggerated or partial disclosure of facts. Wait and learn the whole history before you decide; then believe what evidence compels you to, and no more. But, even then, take heed not to indulge the least unkindness, else you dissipate all the spirit of your prayer for them, and unreserve yourself for doing them good.

AMERICA has caught the glorious infection of free individual thought, which is going down to the bottom of all institutions, that it may see whether the foundations be well and justly laid; and woe unto the edifice that rests upon prejudice and bigotry.

EVERY man builds his own house—builds it many-chambered, fresh-ventilated, picture-hung, vine-wreathed, guest-full; or low-pent, bare-walled, flowerless, inhospitable—just in accordance with his inner nature.

It is the highest duty, privilege and pleasure, for great men to earn what they possess, to work their own way through life, to be the architects of their own fortunes.

Improvements in Sewing Machines.

We lately had an opportunity of examining some important improvements in the sewing machine. The device, which we saw adapted to Howe's large cylinder machine for sewing leather, is the invention of Mr. H. W. Hanna, of Petaluma, and its description will be found of interest to many of our readers.

The invention consists principally of the following points. The shuttle is curved upwards on its lower side to a certain distance from its point, and the driving mechanism is so arranged that the shuttle is drawn back the length of this curve while the needle is rising out of the work. The result is that there is no extra tension on the thread during this time, but sufficient slack is given to correspond to the thickness of the work. In the common form of the machine, this slack must be gained by a corresponding stretching of the thread, and if the thread is not elastic enough for this, it must break. In the improved form there is no such extra strain on the thread and consequently no liability to break at this period.

Another point must be noted. In the common form, there is a space left between the shuttle and one side of the shuttle guide for the insertion of the shuttle thread, but the shape of this space is such that occasionally the thread can kink and get between the shuttle and guide, in which case it is broken by the forward motion of the shuttle. In the improved form, a little flange is added to the side of the guide in such a way that, as the shuttle moves and slack is given to the thread, this last cannot curl up into this space; and consequently this trouble is obviated.

These are the principal points of the invention, and it will be seen that they are of very considerable importance in using the sewing machine, obviating many vexatious troubles to the operator. Several indirect advantages arise from the improvements, and as these can be adapted to other machines of the kind, they are certainly worthy of careful investigation. Steps have been taken to secure the rights of the inventor through the SCIENTIFIC PRESS Patent Agency.

RICE CULTIVATION.—We give to-day the concluding portion of the article on rice culture which was commenced in our last issue. We neglected to mention, last week, that our attention was particularly called to this matter and the copy therefor furnished by Mr. C. D. Gibbs, at whose suggestion the article was originally written. Mr. G., in his capacity as civil engineer, has devoted much attention of late years to the reclamation and improvement of the tide and overflowed lands of the State. He is familiar with the cultivation of such lands in the Southern States, and endorses the mode of preparing the land as described, and illustrated in the paper which he has furnished us. He has also shown us some drawings and plans for leveeing and for controlling the influx and efflux of the waters, which appear to be superior to any other to which our attention has been called. We fear that there are some serious mistakes being made by a portion of our reclamation companies, which may result in disaster to such improvements at the first high water, especially if it should come upon us suddenly. Should anything of the kind occur it would greatly discourage future enterprises of the kind; hence we would suggest that every reasonable effort should be made to render permanent whatever we do in this direction.

DR. WM. BARSTOW, our able associate in editorial labors on the PRESS, has lately gone to his old home in N. H., to administer to the comforts of an aged father—a parent highly blessed with a son worthy and dutiful in all his undertakes.

BOUQUET OF GLADIOLUS.—We have received from Mr. J. W. Thompson, of the Suscol Orchards, Napa county, a magnificent bouquet of 22 new varieties of Gladiolas, imported from Boston, last spring. Fifty varieties were imported; but 22, only were in bloom when this bouquet was plucked.

The Penman's Assistant.

We give below an illustration of a device, which, although its usefulness may be doubted by many on first thought, is yet said by numerous experienced teachers to have been proved to be of great use.

The object of the device is to teach the pupil the correct position of the hand and the correct method of writing. It consists essentially of an egg-shaped ball which is held by the third and fourth fingers in the palm of the hand, in a ring for maintaining the proper angle to the pen holder, and in the thumb and finger rest.

Numerous certificates are given as to the value of the device, of the great assistance to children in removing the difficulty of cramped hands and of manifold unsuccessful attempts before any progress in writing is attained. And for older persons also, we have the statement of business men that it is the greatest help, especially for those who have much writing to do.

We have before us now testimonials from the Principals of the well-known Mills' Seminary, of the Principal and Trustees of the Benicia Public School, and of other persons on the coast. These endorse the "assistant" so warmly, that the device must have proved itself of great value to them in teaching others and in writing themselves. Rev. O. P. Fitzgerald,



ald, State Superintendent of Instruction, endorses it as "one of the best inventions of the day."

Messrs. Moore & Weinmann, (P. O. Box 1915, S. F.) are the general agents for the Assistant on this coast. They are also agents for Eastman's copy books, pens, etc. Perhaps the best endorsement needed for them is the great success achieved by Mr. Eastman in his commercial college in Poughkeepsie, N. Y., which is, we believe, one of the largest institutions of the kind in this country.

OUR JOURNAL AND THE FAIR.—We shall not issue a daily edition of the PRESS in the Mechanics' Fair this year (as formerly), but shall devote a greater amount of labor upon our weekly issues, to render their columns more replete with interesting and reliable reports of the most worthy and important exhibits. Thus having more time to devote to our regular issues, we hope to present more valuable and readable reports than ever before. Exhibitors and others who have information of interest and importance to the public, are invited to furnish us with the facts as early as possible.

VISITORS AND EXHIBITORS at the Mechanics' Industrial and Horticultural Fair, in this city, are invited to call and subscribe for the PRESS. We shall give interesting and impartial reports, worth reading and preserving.

OREGON STATE FAIR.—From a letter by E. M. Waite, Secretary, we learn that the above fair will be held at Salem for six days, commencing Oct. 9th.

Swamp and Overflowed Lands.

Application was made last June to the U. S. Land Commissioner to have action taken for examining the segregation maps and surveys of swamp and overflowed lands made by the State of California, in order to have township-plats constructed and approved by the General Land Office in accordance with the Act of July 23, 1866, to "quiet land titles in California." Directions were issued, in accordance with the Act, in September, 1866, but since then the State has heard nothing of the matter. The General Land Commissioner in reply to the application, has sent, under date of July 7th, to the State Surveyor General and to the U. S. Surveyor General at this city, segregation maps of such lands in the counties of Colusa, Alameda, Monterey, Santa Clara, Yolo, San Joaquin, Lake, Humboldt, Sonoma, Napa, Sacramento, Sutter, Placer and Solano. These were found amongst the files of his office without any data as to the time or purpose of transmission.

If these conform to the system of surveys adopted by the U. S., township-plats are to be constructed, approved and forwarded to the General Land Office for approval. If discrepancies occur, they are to be noted on the official plats forwarded. If U. S. surveys have not been made in any places, such are ordered made within one year.

A Patent Swindle on Farmers.

The Great Falls Journal gives a new swindle practiced in Eastern New Hampshire and Maine. It is a patent right dodger, to induce farmers to give notes for implements on the ground of accepting agencies. The following is a copy of an obligation to pay a given sum conditionally:

LEBANON, ME., May 1st, 1871.
One year after date, I promise to pay A. Sharp, or order, Two Hundred and Seventy-five dollars for value received at ten per cent. per annum payable at Lebanon, Me.
Witness: JOHN DOE.
JOHN SMITH.
Agent for A. Brown.

The Journal says:—"Now, having read the above note carefully, and supposing it to be all right for \$10, just cut in two between the word *or*, and *beaver*, in the first line, and you will find that the left hand piece is a perfect note for \$275. Having induced a farmer to accept any agency, as specified in the original note, and having obtained his signature, the sharper departs. He then cuts off the right hand portion, proceeds to the nearest broker or banker, to whom he offers to sell the note at a discount on the plea of needing money. The signer is generally a responsible person, well known to the business men in the village, and the note is purchased. When the note falls due it is presented for collection, and the signatures are indisputable, the horrified farmer is compelled to pay \$275, when he supposed that he owed \$10. This is one of the most infamous of all tricks of deception, and is largely practiced throughout the country. Farmers should cut this out and preserve it carefully, in order to guard against being imposed on by unscrupulous scoundrels."

A STRANDED WHALE.—A whale has been washed ashore on the beach about half a mile beyond Fort Point. He is said to be 90 feet long, and is now being prospected for oil.

The Santa Cruz Railroad.

The final report of the Chief Engineer (Mr. W. J. Lewis) of the Santa Cruz & San José R. R. has been published. A line was run from San José (at the intersection of San Carlos street and the Southern Pacific in Front street), to near Los Gatos to the Los Gatos Creek, thence to Ten Mile House, along the toll road through the cañon, and through Lexington to near the Forest House. It then runs near the channel of Los Gatos creek and transversely up the ridge to a tunnel at Taylor's Pass, then down to Soquel and to the landing at Santa Cruz. The projected tunnel and cut are 2,000 feet in length, through soft sand rock. The total length of the line is 38.12 miles; the maximum grade, 132 feet; the minimum radius, 230 feet, except at one point where a curve of 130 feet would save considerable expense.

The cost of the road bed and superstructure is estimated at \$450,000, or about \$11,805 per mile. This may be reduced considerably. By adopting a higher grade, the tunnel at Taylor's Pass may be avoided. The object of the survey was to ascertain the practicability of the route for a narrow gauge road. This is demonstrated, and also the fact that the cost of road bed and superstructure of the narrow gauge will be less than that of the superstructure alone of the 4 ft. 8½ in. gauge.

Influence of Climate on Vegetation.

It is not alone the exterior appearance of plants which climate alters, it has a distinct action on the chemical compounds of vegetables. Dr. Darwin says the chemical qualities, odors and tissues of plants, are often modified by climate in a manner which seems to us extraordinary, and it is remarkable, because it might have been thought that definite chemical compounds would have been little liable to change either in quantity or quality. The hemlock yields no cocaine in Scotland, the Aconitum nappellus becomes innocuous in frigid climates. The rhubarb flourishes in this country but does not produce those medical substances which make the plant so useful when grown in its own country. The China tree grows well in the west of England, amazingly so in South Carolina, in neither case is theine yielded. The wood of the American locust tree in England is worthless as that of oak (*Quercus robur*) grown at the Cape of Good Hope, or is the Tasmanian gum tree grown in the vicinity of Melbourne. Dr. Falconer says, there is a great difference in the fibre of the hemp, in the quantity of the oil in the seeds of the linum, and of morphine in the poppy, when these plants are cultivated on the plains or in the mountains of India. The same species of cactus has been carried from Canton, Manilla, Mauritius, and from the hot-houses of Kew. They were all alike in appearance, but the cochineal insect thrives only on the native plant, on which it thrives prodigiously. Monsieur Berthier says, if we compare amongst themselves the ashes of wood grown on land of different kinds it is seen they differ remarkably, which seems to establish the fact that climate has an influence on their constitution. These examples are pertinent, so far as they go, to show how comprehensive and complete must all circumstances be to bring a plant up to its maximum state.

"They've Come!"

Many amusing anecdotes are told at Washington of the late Commissioner of Agriculture, Mr. Newton—who was possessed of some remarkable traits of character. We were lately told of one that happened during the excitement of the late war, which we think has never been in print. On a certain occasion he hurried to the lobby of the House, and desired his car to be delivered to Speaker Colfax. The messenger informed Mr. Newton the speaker's business was very important, Mr. Colfax would hardly wish to be disturbed. "Important! very important," hurriedly exclaimed the Commissioner.

Mr. Colfax called a member to the chair and hastened to the lobby—where Father Newton, in an excited manner, tapped him on the shoulder, and whispered—"They've come!" "Who's come?" anxiously inquired Mr. Colfax. "The turnip seed." The Speaker could not avoid his well-known and characteristic smile as he wheeled upon his heel and returned to his official post.

Industrial Fairs for 1871.

CALIFORNIA.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 23d, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Aug. 3d.

FLOUR—There has been quite an active demand for export, with fair local enquiry. About 3,000 bbls. cleared on Monday, per steamer City of Adelaide, and barque Charlotte, for China. We quote a shade lower than our last reference, as follows:

Superfine, \$6.00@6.25; extra, in sacks, \$6.62@6.75. Standard Oregon brands may be quoted \$6.50@6.75.

Transactions embrace, in addition to shipments to China, 1,000 bbls. Superfine, outside brands, and 4,000 bbls. Genesee extra and Superfine, private.

WHEAT—The arrivals of wheat still continue light. Farmers are inclined to hold on, for the reason that money is plenty and can be had at lower rates than formerly on wheat—say at one per cent. Farmers generally seem to prefer to thus hold on, and watch the chances—perhaps until the rains set in so as to determine approximately the next years crop. The impression is general that wheat is safe to hold at \$2.00 for twelve months, and money, to about that amount can be had as above.

By reference to the harvest notes in our regular agricultural summary it will be observed that grain is generally turning out much better than expected, everywhere, throughout the grain growing districts. Farmers have generally been deceived by the unfavorable appearance of the straw—which is short and unpropitious; but the heads are filled out beyond that which usually accompanies such indications. It is now believed by good judges that there will be an export surplus of fully 100,000 tons.

At present rates, however, here, and so long as Liverpool quotations remain at their present figure, the market in this city, must be governed by the wants of our local millers. During the past two weeks, there has been an active demand from millers to supply orders for flour for China; and contracts have been made by them on terms which if they have not resulted in positive loss, have at least not been remunerative. With this experience we can hardly hope they will continue their past efforts, and a further and gradual decline must ensue until the prices reach the figure at which Liverpool buyers can enter the market.

Just at present the millers are well supplied and the demand is slack. Sales since our last review approximate 40,000 sks. fair to choice new at \$2.15@2.25 per 100 lbs. which is the quotation at the close.

The Liverpool market was telegraphed yesterday (no quotations received to-day) at 11s. 6d.—an advance since our last summary of 1d. per cental.

BARLEY—The new crop is still coming in freely and prices are firmer. Sales during the week have aggregated about 12,000 sks. The range of new crop may be quoted at \$1.52@1.57½—choice old brewing, is in good demand at from \$1.90@2.00.

OATS—Have been in fair demand at a steady prices. Sales of 5,000 sacks are reported at from \$1.80@1.95 from fair to choice.

CORN—The market may be quoted at \$2.15@2.25—Being in light supply corn is worth about the same as wheat.

CORNMEAL—Is still quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—Still quotable at \$3.

RYE—Nominal at \$2.50 for choice.

STRAW—Quotable at \$8@10 by the cargo.

BRAN—The mill price is \$25.00.

MIDDLINGS—For feed are now selling at \$35 and \$40 for fine—a decline.

OIL CAKE MEAL—Is quotable at \$40 from the mill.

HAY—The receipts are fair with good demand. We quote ordinary to choice at \$15.00@20.50 per ton. Good clover has sold during the week for \$17.50; wheat at \$19. The last sale of choice wheat is reported at \$20.50.

HONEY—We quote Los Angeles strained 13@14c. Small lots of choice white, from San

Diego have been sold at 30c. Potter's in 2-b cans, \$4.50 per doz.

POTATOES—The market has been gathering strength since Monday, through decreased supplies. We quote the range at 75c@1 for Mission, Lighthouse, Halfmoon Bay and Peach-blow.

SWEET POTATOES—Sale of 50 boxes is reported at 3½c from first hands.

HOPS—Demand light—prices nominal at 9@12½c for California.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9c. Sales during the week 1,710 Cal. dry, and 1,650 salted.

WOOL—Oregon continues to feed the wool market quite liberally, commanding good prices therefor. The prospective market for our fall clip is not quite so promising as it was a few weeks since, and some fears are already expressed that lower prices must prevail.

The market remains quiet, as usual at this season of the year. Some small parcels of lamb clips have been received and sold at 28@30c. Sales for the week aggregate 32,000 lbs. at 30@35c for Spring and 38@41c for Oregon.

TALLOW—The extremes may be quoted from 8@9½c.—The latter extra choice.

SEEDS—Flax 3@3½c, Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 14½@15c; Oregon, 14½@15½; Chicago 16@17c; Cal. Hams 14@15; Oregon do, 15½@16c; California Sugar-cured Hams, 16@17c; Oregon do, 17@18c; Eastern do, 18@20c; California Smoked Beef, 13@14c.

BEANS—Are selling at the following rates: small White and Pea, 2@2½c; small Butter 2@2½c; large do, 2½@2¾c; Pink 1½c; Bayo, 2½@3c per lb.

ONIONS—We quote at 75@90c, for red and yellow.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c per lb.

FRUIT—Tahitian Oranges, \$15 per 1,000; Limes \$15 per 1,000 Cal. lemons, \$6 per 100. Bananas, \$1.50@2.50 per bunch; Cocoanuts, \$10.50@15 per 100; Apples, 50c@1.50; Peas, 75c@1 per box, and Bartlett's \$2.50; Peaches, \$1, and Crawford's, \$1.50 per basket; Apricots, 75c@1.25; Nectarines, \$1.00@1.50 per box. Cherries, 16c for Oregon; Currants, 5@7c; Raspberries, 12½c per lb; Plums, 50c@1 per basket. Prunes, 8@12½c; Strawberries, 8@9c; Blackberries, 5@7c; Figs, 10@12c; Grapes—Sweet water, 75c@1.25; Fontainebleau, \$2@2.26 per box; Muscat of Alexandria, 15@25c; Rose of Peru, 10@15c per lb.

VEGETABLES—Cabbage is selling at 1@1½c; Rhubarb, 2@3c; Garlic, 1c; Green Peas, 1½@3c; String Beans, 2@2½c; Summer Squash \$1; Tomatoes, 50c@1; Cucumbers, 50c@1.00 per box; Green Corn, 10@20c per doz; Water-melons, 7@12c each, and Canteloupes \$3.00@3.50 per doz; Egg Plant, 3c; Okra, 6c per lb. Marrowfat Squash, 26@38 per ton.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c per lb. Do 2d quality 6@7c per lb. Do 3d do 4@5c per lb.

VEAL—Extremes, 7@10c.

MUTTON—5½@6c per lb.

LAMB—May be quoted at from 7½@8c per lb.

PORK—Undressed is quotable at 5½@6½c, dressed, 9@9½c.

POULTRY, ETC.—Is in limited demand. Hens \$5.50, Roosters \$5@6.50; Ducks, tame, \$4.50@5.50 per doz; geese, tame, \$1.50@1.75 per pair; live turkeys, 17@18c per lb.

WILD GAME—Hare, \$1.50@2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 25@32c; California firkin butter, 25@30c. Two or three fancy dairies are realizing 32½c. Eastern firkin 15@25c.

CHEESE—In fair supply, California new, 10@14c., California Factory 16c., Eastern, 15@16c. for new.

EGGS—California fresh, 37½@39c. Ducks, 30c.

LARD—California Lard, 11-lb tins, 14@15c; Oregon in bbls. 14½c.; Eastern do. 13@14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the K. W. Lumber Association:

| | Merchantable. | Refuse. |
|----------------------------------|---------------|---------|
| Rough..... | \$15 00 | \$11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, beaded..... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Sliding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | |
| Picket, rough, pointed..... | 16 00 | |
| Picket, dressed..... | 22 50 | |

DRIED FRUITS—The market quiet. We quote prices as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, German, 11c per lb; Raisins, layer, \$3.25@3.75 per box; Currants, Zante, 10½c.

TABLE OF MISCELLANEOUS.

| | |
|-----------------------------|-------------------------------|
| Sugar, crsh'd, lb. \$14½@15 | Hemp Seed, lb. \$ 7 @ 9 |
| Hawaiian, do. 9 @ 12 | Castor Beans, lb. 4 @ 4½ |
| Coffee, Cos. R. do. 15½@16 | Castor Oil, gal. 1 75 @ 2 00 |
| Rio, do. 16 @ 16 | Linseed Oil, gal. 1 05 @ 1 10 |
| Tea, Japan, lb. 50 @ 50 | Broom Corn, lb. 3 @ 30 |
| Green, do. 50 @ 50 | Beeswax, lb. 27 @ 30 |
| Rice, Haw'n, lb. 8½@9 | Peanuts, lb. 5 @ 7 |
| China, do. 6 @ 7½ | Corn Meal, cwt. 2 50 @ 2 00 |
| Coal Oil, gal. 50 @ 60 | Onions, cwt. 1 50 @ 3 50 |
| Candles, lb. 15 @ 18 | |

San Francisco Retail Market Rates.

FRIDAY, August 4, 1871

MISCELLANEOUS.

| | |
|-------------------------------|-------------------------------|
| Butter, Cal. fr. do. 35 @ 45 | Wool Sacks, new 40 @ 90 |
| Pickled, Cal. fr. do. 35 @ 40 | Second-hand do. 67½ @ 70 |
| do Oregon, do. 35 @ 40 | Potatoes, cwt. 2 12 @ 13 |
| Honey, lb. 25 @ 30 | Potato GY Beans, 22 @ 23 |
| Cheese, lb. 20 @ 25 | Second-hand do. 15 @ 16 |
| Eggs, per doz. 35 @ 45 | Deer Skins, w/ on 15 @ 22 |
| Lard, lb. 18 @ 20 | Sheep skins, w/ on 50 @ 75 |
| Sugar, cr. 6½ lb. 1 00 @ 1 10 | Sheep skins, plain. 12½ @ 25 |
| Brown, do. 10 @ 13 | Goatskins, each. 25 @ 40 |
| Beet, do. 1 00 @ 1 10 | Dry Cal. Hides. Weak 18 |
| Sugar, Map. lb. 25 @ 30 | Salted do. 9 @ 10 |
| Plums, dried, lb. 15 @ 25 | Dry Mex. Hides. 15 @ 16 |
| Peaches, dried, lb. 15 @ 25 | Salted do. 9 @ 10 |

PRODUCE, ETC.

| | |
|---------------------------------|-------------------------------|
| Codfish, dry, lb. 6 00 @ 12½ | Barley, cwt. 1 65 @ 1 75 |
| Flour, ex. bbl. 7 00 @ 7 75 | Beans, cwt. 2 50 @ 3 00 |
| Superfine, do. 5 50 @ 6 00 | Potatoes, cwt. 2 12 @ 23 |
| Corn Meal, 100 lb. 3 25 @ 3 50 | Cucumbers, each. 75 @ 90 |
| Wheat, lb. 100 lbs. 2 20 @ 2 50 | Hay, lb. ton. 20 @ 24 00 |
| Oats, lb. 100 lbs. 1 90 @ 2 10 | Live Oak Wood. 9 00 @ 10 00 |

FRUITS, VEGETABLES, ETC.

| | |
|----------------------------------|----------------------------------|
| Pine Apples, t. 50 @ 60 | Cabbage, lb. doz. 75 @ 1 50 |
| Bananas, lb. 3 00 @ 3 50 | Carrots, lb. doz. 10 @ 25 |
| Cal. Walnuts, lb. 20 @ 20 | Celery, lb. doz. 75 @ 100 |
| Cranberries, lb. 75 @ 100 | Cress, lb. doz. 20 @ 25 |
| Cranberries, lb. 75 @ 100 | Dried Herbs, b'n 25 @ 50 |
| Apples, Early, lb. 50 @ 55 | Egg Plant, lb. 17½ @ 18 |
| Red Astrakhan, lb. 50 @ 55 | Garlics, lb. 5 @ 8 |
| Red June, lb. 50 @ 55 | Green Peas, lb. 8 @ 8 |
| Pears, table, lb. 75 @ 125 | Green Corn, doz. 20 @ 40 |
| Plums, Cherry, lb. 6 @ 8 | Sugar Peas, lb. 15 @ 16 |
| June, lb. 10 @ 12½ | Radishes, lb. 12½ @ 15 |
| Apricots, Royal, lb. 3 @ 4 | Lettuce, lb. doz. 25 @ 25 |
| Moopark, lb. 2½ @ 4 | Mushrooms, lb. 25 @ 50 |
| White, lb. 2½ @ 4 | Horsedradish, lb. 20 @ 20 |
| Cherries, lb. 5 @ 10 | Okra, dried, lb. 12½ @ 50 |
| Currants, lb. 8 @ 8 | Radishes, lb. 12½ @ 15 |
| Gooseberries, lb. 8 @ 8 | Pumpkins, lb. 3 @ 4 |
| Raspberries, lb. 18 @ 20 | Parsnips, lb. 25 @ 25 |
| Strawberries, lb. 8 @ 8 | Parsley, lb. 25 @ 25 |
| Blackberries, lb. 8 @ 8 | Pickles, lb. gal. 50 @ 75 |
| Oranges, lb. cwt. 30 @ 30 | Rhubarb, lb. 6 @ 6 |
| Lemons, lb. cwt. 30 @ 30 | Radishes, lb. 12½ @ 15 |
| Limes, lb. cwt. 25 @ 30 | Green Peppers, lb. 25 @ 25 |
| Figs, dried, lb. 6 @ 10 | Red, do. 25 @ 25 |
| Asparagus, wh. lb. 6 @ 10 | Summer Squash 6 @ 6 |
| Apricots, lb. 6 @ 10 | Marrowfat, do. 6 @ 6 |
| Artichokes, doz. 50 @ 75 | Hubbard, do. 6 @ 6 |
| Brussels sprouts, lb. 2 @ 3 | Salsify, lb. bunch 12 @ 25 |
| Beets, lb. doz. 20 @ 25 | Dry Lima, sh. 25 @ 50 |
| Potatoes, lb. 2 @ 3 | Spinage, lb. hskt. 25 @ 50 |
| Currants, lb. 8 @ 8 | Salsify, lb. bunch 12 @ 25 |
| Broccoli, lb. doz. 50 @ 100 | Turnips, lb. doz. 25 @ 25 |
| Cauliflower, lb. 1 00 @ 1 00 | New Tomatoes, lb. 5 @ 8 |

POULTRY, GAME, MEATS, ETC.

| | |
|---------------------------------|------------------------------|
| Chickens, apiece 50 @ 75 | Bacon, Cal. lb. 18 @ 20 |
| Turkeys, lb. 20 @ 25 | Oregon, do. 18 @ 20 |
| Ducks, wild, lb. 15 @ 20 | Hams, Cal. lb. 18 @ 20 |
| Tame, do. 1 50 @ 2 00 | Choice D field 25 @ 25 |
| Teal, lb. doz. 2 50 @ 3 00 | Whittaker's Or. 25 @ 25 |
| Geese, wild, each 2 50 @ 3 00 | Johnson's Or. 25 @ 25 |
| Tame, lb. pair. 2 50 @ 3 00 | Salmon, lb. 10 @ 12½ |
| From Chicago, 75 @ 85 | Terrapin, lb. 10 @ 12 |
| Hens, lb. doz. 20 @ 25 | Pickled, lb. 6 @ 8 |
| English, do. 20 @ 25 | Rock Cod, lb. 10 @ 12 |
| Venison, lb. 10 @ 15 | Kingfish, lb. 10 @ 15 |
| Quails, lb. doz. 10 @ 15 | Perch, s water, lb. 12½ @ 15 |
| Pigeons, dom. do. 30 @ 50 | Freemason, lb. 12½ @ 15 |
| Wild, do. 1 50 @ 2 00 | Lake Big Trout, 12½ @ 15 |
| Hares, each 40 @ 50 | Smelts, lb. 6 @ 8 |
| Rabbits, tame, 50 @ 100 | Herring, fresh, 10 @ 10 |
| Wild, do. 75 @ 100 | Sm kcd, per 100 100 @ 100 |
| Squirrel, lb. pair. 25 @ 25 | Tomcod, lb. 15 @ 18½ |
| Beef, lb. 20 @ 25 | Terrapin, lb. 10 @ 12 |
| Sirloin and rib 18 @ 20 | Mackerel, p.k. ca 40 @ 50 |
| Corned, lb. 10 @ 12 | Fresh, do. 10 @ 12 |
| Smoked, lb. 15 @ 18 | Sa Bass, lb. 25 @ 25 |
| Pork, rib, etc. 12½ @ 15 | Halibut, lb. 6 @ 75 |
| Hope, do. 12 @ 15 | Shrimp, lb. 4 @ 5 |
| Veal, lb. 15 @ 20 | Oysters, lb. 100, 10 @ 12 |
| Cutlet, do. 20 @ 20 | Chesp. lb. doz. 10 @ 10 |
| Mutton chops, 12½ @ 15 | Turbot, lb. 50 @ 62 |
| Leg, lb. 12½ @ 15 | Crabs, lb. doz. 10 @ 10 |
| Lamb, lb. 15 @ 15 | Soft Shell, lb. 37 @ 50 |
| Tongues, beef, ea 10 @ 15 | Shrimp, lb. 10 @ 12 |
| Tongues, pig, ea 15 @ 15 | Pompinio, lb. 15 @ 15 |

* Per lb. † Per dozen. ‡ Per gallon.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, August 3.

SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good.

City Tanned Leather, lb. 26 @ 30

Santa Cruz Leather, lb. 26 @ 30

Country Leather, lb. 25 @ 28

The French market remains the same. California kips are in demand and in good prices.

Jodot, 8 Kil. per doz. \$62 00 @

Jodot, 11 to 13 Kil. per doz. 82 00 @ 96 00

Jodot, second choice, 11 to 15 Kil. per doz. 82 00 @ 88 00

Lemoine, 16 to 19 Kil. per doz. 96 00 @ 100

Lemoine, 12 to 15 Kil. per doz. 96 00 @ 100

Cornellian, 16 Kil. per doz. 72 00 @ 70

Cornellian, 12 to 14 Kil. per doz. 63 00 @ 70

Ogerau Calif. lb. doz. 54 00 @ 50

Mercier Calif. 16 Kil. per doz. 65 00 @ 60

Robert Calif. 7 and 8 Kil. 35 00 @ 40 00

Common French Cal. Skins, lb. doz. 35 00 @ 75 00

French Kips, lb. 1 00 @ 1 30

California kip, lb. doz. 60 00 @ 75 00

Eastern Wheel Stuffed Calif. lb. 80 @ 1 25

Eastern Bench Stuffed Calif. lb. 1 10 @ 1 25

Eastern Cal. for Backs, lb. 1 15 @ 1 25

Sheep Roans for Topping, all colors, lb. doz. 8 00 @ 12 00

Sheep Roans for Linings, lb. doz. 5 50 @ 10 50

California Russett Sheep Linings, lb. 1 75 @ 5 50

Best Jodot Cal. Boot Legs, lb. pair. 5 25

Good French Cal. Boot Legs, lb. pair. 4 50 @ 5 00

French Cal. Boot Legs, lb. pair. 4 00

Harness Leather, lb. 30 @ 37½

What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*
The first No. evinces marked editorial ability....Fills up a vacancy that has been felt in our agricultural department....With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—*San Jose Dem.*
It is a work which no farmer should be without.—*Yreka Union.*

An admirable specimen both as to execution and contents.... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—*Encaual Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*Encaual.*

They can, if they will, make it a creditable work. [We will that.] It opens well.
Excellent paper and type—and a first-class agricultural journal.... Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—*Arizona Miner.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—*Idaho Statesman.*

Just the kind needed on this coast, and merits an extended circulation.—*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. E. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation.... Is running over with entertaining and instructive reading matter, and embellished with numerous engravings. The heading is beautiful and appropriate.—*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to combine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press*.

If the first number is to be taken as an earnest of what will follow, each week, we can advise to all interested in agricultural pursuits, subscribe.—*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—*Evangelist, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that L. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unobtrusiveness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—\$4 a year; or to a club of 10 or more, \$3. Sample copies sent on receipt of a postage stamp.—*Alpine Miner.*

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—*Democrat, Downville.*

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—*Alpine Chronicle.*

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—*Christian Advocate, S. F.*

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—*Helena, (M. T.) Gaz.*

Will be found worthy the patronage of the people of this State.—*Argus, Snelling.*

We heartily welcome the new publication.
The interests of our own country are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—*Inyo Independent.*

FRANK A. CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "bead and front." It is a taking picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

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1871.

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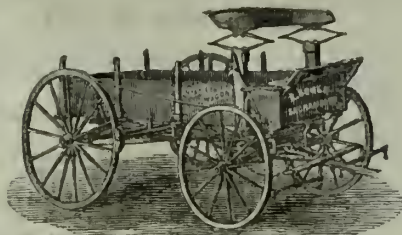
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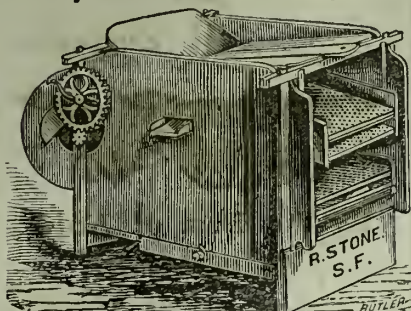
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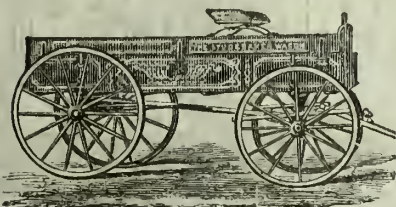
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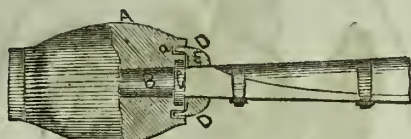
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THE SEVENTEENTH SEMI-ANNUAL Session of this Seminary for Young Ladies, owned and conducted by Mr. and Mrs. Hermon Perry, assisted by a full and efficient corps of Professors and Teachers, will commence on MONDAY, AUGUST 7TH, 1871.

For particulars address

HERMON PERRY, A. M.,
Sacramento, Cal.
24v1-2m

FULL BLOODED SHEEP!

For Sale, at Fair Prices, 40 Rams and 20 Ewes, of

Full Blooded Silsian Stock,

from the celebrated "Electoral" Flock of William Chamberlain, Esq., of Red Hook, Dutchess County, New York. These are the purest and best bred Silsian Sheep in the United States, if not in the world, and have carried off the

FIRST PREMIUMS

in Fine Wool Classes at the State and National Fairs since 1854.

ALSO FOR SALE,

Full Blooded Cotswold and Full Blooded Leicestershire Rams and Ewes,

just selected from the Best Flocks in England by one of the best of judges, Wm. T. Wilson, Esq., and imported by him especially for this market.

Also, California Bred, Full Blooded

COTSWOLD AND SOUTHDOWNS,

and 1/2 and other crosses between these Breeds and between each of these Breeds and Full Blooded Spanish Merinos.

Also, Full Blooded Berkshire Pigs,

selected and imported by the same party above named.

HIGHEST PRICES PAID FOR WOOL,

and Wool Pressed and Shipped for Exporters, with Care and on Reasonable Terms. Also good Farming and Grazing Land, well located and in quantities to suit, by

ROBERT BECK,

At the Office of the Secretary of the Cal. State Agricultural Society, SACRAMENTO, Cal.
20v1-3m

STEINWAY & SONS'

Patent Agraffe Pianos,
GRAND, SQUARE AND UPRIGHT.

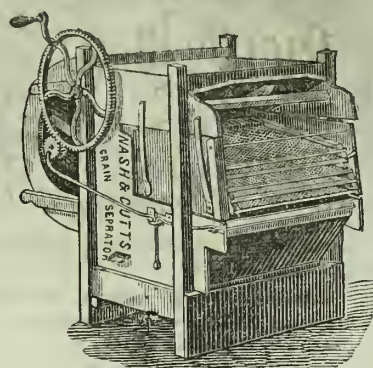
Pianos to Let.



A. HEYMAN,

I street, between Sixth and Seventh,
Opposite old Capitol, SACRAMENTO.
ma18-1f

NASH & CUTTS' FANNING MILL AND GRAIN SEPARATOR.



FIRST PREMIUM at the California State Fair of 1870 over all other Mills in the State, after a Thorough Practical Trial by the Committee of Farms, with ALL KINDS OF GRAIN. It is the Cheapest and Best Mill in use, and the only one that will completely separate Barley, Oats, Smut, Chess, and all kinds of Grass and Weed Seed, from Wheat, and at the same time separate perfectly the different qualities of Wheat. Also separates Oats and all foul seed from Barley, or Barley and Wheat from Oats. It will clean Beans, Peas, Corn, and all kinds of grain, perfectly, and more rapidly than any other Mill ever built. For sale by **NASH, KING, MILLER & CO.,** at Manufactory, corner K and Teuth streets, Sacramento, Cal. 26v1-3m



LELAND STANFORD
President.

**H. F. HASTINGS, Vice President
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General Agents, Home Office
3v2-3m 137 Montgomery street, San Francisco.

THE MASONIC MIRROR,
A QUARTO-MEDIUM SIXTEEN PAGE
Literary and Family Newspaper,

AND THE
Organ of the Masonic Fraternity on the
Pacific Coast.

Subscription Reduced to \$2.50 per Year.

ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M. W. Grand Lodge, F. & A. M. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the Masonic Mirror, edited by Brothrs Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.

At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:
Resolved, That we recommend the Masonic Mirror, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

TO ADVERTISERS.

The MIRROR presents the best Advertising medium on the Pacific Coast, as it circulates in every town and hamlet, and among a class of citizens that it will be advantage to advertisers to reach.

BISHOP SHERMAN,
608 Market Street, San Francisco.

GILES D. ORAY. JAMES M. BAYEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,
In Building of Pacific Insurance Co., N. E. corner California and Leidesdorf streets,
27v16 SAN FRANCISCO.



Is issued weekly on Saturdays, containing sixteen pages devoted to

Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures, Mechanics, Industries, etc.

With an able and ample corps of editors, special contributors and correspondents, we publish a liberal variety of articles, entertaining as well as instructive, which not only make the RURAL PRESS an able assistant to its patrons, but an attractive and welcome visitor to every reader in every intelligent

Home Circle;

for few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information is faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
A greater Diversity of Products;
Better Breeds of Stock;
Better Varieties of Fruits;
The Culture of New Products;
Creation of New Home Industries;
Adoption of Improved Implements;
Higher and Happier Aims in Life, etc.

Valuable and Timely Hints,

are given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxiliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Raisin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

No editorials or selections of unchaste or doubtful influence; or lottery, quick or other disreputable advertisements, will be admitted into its columns.

A select variety of advertisements only will be inserted. Circulated widely among the most thrifty of our population, the P. R. P. will be the cheapest and most effective medium for a large range of first class advertisements in the Pacific States.

Correspondence is respectfully solicited from every worthy source.

LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered. Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

SUBSCRIPTION IN ADVANCE.

One copy one year.....\$4.00
One copy six months.....2.50
One copy three months.....1.25
Single copies.....10

CLUB RATES.

Ten copies or more, first year, each.....\$3.00
[A free copy or premium sent to getter up of club.]

DEWEY & CO.,

Publishers, Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

GOOD HINTS ABOUT ADVERTISING!

Be Careful of your Seed! Sow it in Good Ground!

If you have goods to sell to farmers, it will pay you better to advertise in a farming paper, read and preserved by 10,000 intelligent farmers, than in miscellaneous daily or weekly journals with 20,000 readers, comprising only 1,000 farmers. A mining journal in California with 10,000 readers reaches more miners than any other ten papers in the Union.

Purchasers are more likely to look for information in the advertising columns of a paper devoted to their special interests, than elsewhere, when ready to buy. Some will not read advertisements upon any other occasion.

Weekly journals are read most leisurely and carefully, and at a time when the subscriber is most favorably inclined to examine advertisements. The newspaper most specially representing your particular branch of industry is usually best entitled to your patronage, and the most profitable medium you can employ.

Advertisements appearing in a handsomely printed journal of established good character are more effective and beneficial to permanent dealers than when inserted in a shabby sheet of indifferent reputation.

Advertising in cheap priced mediums (of limited circulation) is like buying goods at retail when you could as well take them at wholesale.

Information imparted to a list of superior and intelligent and active and industrious readers (naturally looked up to by others for information), is seed sown in good soil for the advertiser.

Fame and fortune are gained, nine times in ten, by liberal and judicious advertising.

Fair Samples.

During the Autumn Fair Season it is the purpose of the proprietors to bring the attention of every person engaged in the line of industries represented by this journal, to the personal benefit to be gained by its patronage and regular reading. We are not only determined to print a superior paper, but are bound that people shall know it, see it, and learn its power of self-elevation and practical benefit, by experience.

To accomplish this we have concluded to print (perhaps weekly) during the Fair season, many extra papers as fair sample copies of the Press for gratuitous and judicious circulation amongst the very best class of citizens—i. e., the steady, industrial, intelligent and producing population. By this liberal means our regular circulation will be greatly extended, and the different individuals who will receive and critically examine the paper and its entire contents will aggregate an immense number during the next three months.

Special to Inventors.

All inventors who secure valuable patents through the SCIENTIFIC PRESS PATENT AGENCY are specially favored with a liberal notice of the merits of their inventions in the SCIENTIFIC PRESS and the PACIFIC RURAL PRESS—two first-class weeklies, the most widely circulated of any on this coast, reaching the very best classes for the benefit of our ingenious citizens. In many cases we know that such notices have been worth more to patentees than the whole cost of obtaining patents. While we give the most able and experienced counsel to inventors, our terms are more favorable to Pacific Coast inventors than those of any other Agency in the United States, besides the benefit derived from having their inventions set forth rightly in the start by gratuitous publication in more than one highly reputable journal.

Onward is the Motto of the Progressive Spirit of the Age.

PACIFIC POTTERY,

Corner 31st and J Streets, Sacramento.

N. CLARK & CO.

Would respectfully call the attention of Gardeners, Orchardists, Grape Growers and Farmers, to their new

Underground Irrigation Pipe.

This new method of Irrigation can be seen in successful operation in the grounds adjoining our work. One superiority of underground irrigation is plainly to be seen. With less than one-half of the water used in top irrigation, it produces twice the amount of crop.

We manufacture and keep a good supply of Earthen and Stone Ware, Jars, Butter Pots, Flower and Bean Pots, Jugs, Etc.

A specialty is made of Vitrified Iron Stone Water and Sewerage Pipe; size from 2 to 12 inches. Also Drain and Land Tile.

Depot at No. 3 California street, San Francisco.

6v2-3m

GEO. B. BAYLEY,

Corner Sixteenth and Castro Streets, OAKLAND.



Importer and Breeder of CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale.
Address, with stamp, P. O. Box 659, San Francisco.

PENNSYLVANIA CENTRAL R. R.

AND

Pittsburgh, Fort Wayne and Chicago R. R.

—IS—

61 Miles the shortest line
From Chicago to New York. Three daily lines of Pullman's Palace day and Sleeping Cars, from Chicago to Pittsburgh, Harrisburg, Philadelphia and New York

WITHOUT CHANGE!

With but one change to Baltimore, Hartford, Providence, Springfield, New Haven, Worcester, Boston. And is the most direct route to Washington city. Express trains on this line are equipped with WESTINGHOUSE PATENT AIR BRAKES.

Boston and New England Passengers

will find this route especially desirable, as it gives them an opportunity of seeing the finest views among the Alleghany Mountains, besides visiting Pittsburgh, Philadelphia, and New York without extra cost.

All New England Passengers holding through tickets will be transferred, with their baggage, to Rail and Boat connections in New York WITHOUT CHANGE. Through Tickets via, this great short route for sale in San Francisco, at 422 California street, 208 Montgomery st., 306 Montgomery st., and at Ticket office of Central Pacific R. R. in Sacramento, and at Salt Lake, Cheyenne, Denver and Omaha. Be sure your tickets read via Pennsylvania, Central & Pittsburgh, Ft. Wayne and Chicago route. J. R. ERRINGER, Jr., Gen'l Agent, 4v22-ly San Francisco, Cal.

Eighth Industrial Exhibition

—OF THE—

MECHANICS' INSTITUTE

WILL BE OPEN TO THE PUBLIC
AT 11 A. M. TUESDAY, AUGUST 8, 1871,
With the usual Ceremonies.

HON. MILTON S. LATHAM

Has consented to deliver the OPENING ADDRESS.

The EXHIBITION BUILDING is situated on

Union Square,

In the heart of the city of San Francisco, and on the line of three street railroads. The building covers a ground area of 95,200 feet, and is complete in all its appointments.

Steam power and water supply furnished free to exhibitors.

All goods competing for premiums, or to be catalogued, must be received for the entry clerk before August 12th.

Rules and Regulations can be obtained from any of the officers at the Institute or Pavilion.

In conjunction with the Industrial Exhibition, the BAY DISTRICT HORTICULTURAL SOCIETY will hold its first Exhibition of the Fruits and Flowers of California, occupying a space of 320x50 feet.

PRICES OF ADMISSION:

Season Tickets admitting gentleman and one lady.....\$5.00
Season Tickets admitting one person.....3.00
Season Tickets admitting juveniles under 14 years.....1.50

The above Tickets are not transferable. Single Admission.....50 cts.

Children under 14 years.....25 cts.

Children must be in charge of guardians or parents. Tickets can be obtained from any of the Managers, at the Mechanics' Institute, 27 Post street, at the Pavilion, Union Square, or from the principal Music or Drug Stores in the city.

No bills will be paid unless ordered by the proper Committees. By order

A. S. HALLIDIE, President.
W. H. WILLIAMS, Secretary. 2v23-16p 4t

F. A. ROULEAU,

SEARCHER OF RECORDS,

No. 620 Washington Street,

SAN FRANCISCO, CAL.

2v2-2m

ARTIFICIAL LIMBS.

A. A. MARKS, No. 676 Broadway, N. Y. City.

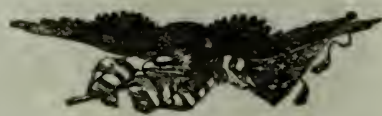
the inventor and authorized United States Government manufacturer of the celebrated first premium Artificial Limbs with Rubber Hands and Feet, has published a new and enlarged edition of his Illustrated Pamphlet, of importance to all who have suffered amputations, especially to officers and soldiers who lost their limbs in service. Copies sent free to applicants!

21v1-13ts-12tr

Designing

and

Engraving



By the Best of Artists,
At this Office.

Dewey & Co., U. S. and Foreign Patent Solicitors and Counsellors, Scientific Press Office. Principal Agency for the Pacific States. Established 1860.

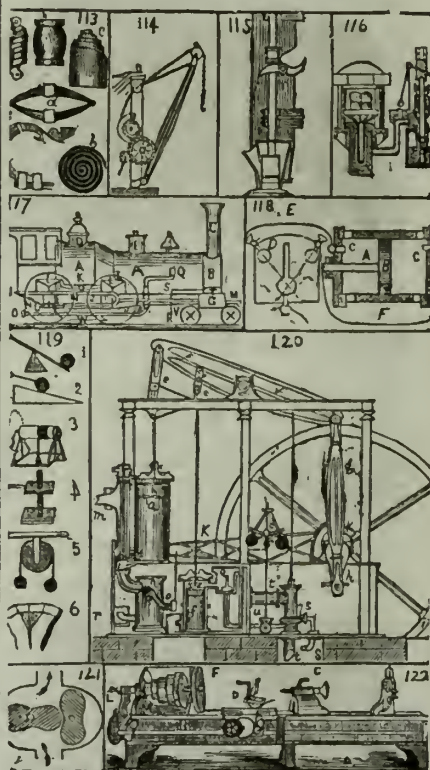


Plate V of Illustrated Mechanical Movements, described in Dewey & Co's, 48 page circular of Information for Inventors. Sent post paid on receipt of stamp.

Patent claims for Pacific Coast Inventors fully secured in less time than through any other agency in the United States, and at less cost. If you think you have a valuable invention, consult none but the best and most reliable counsellors. They will obtain a valid patent if new, or save you expense, if old, by giving you honest and intelligent advice. All business relating to patent soliciting transacted confidentially and thoroughly.

DEWEY & CO.,

Patent Agents, No. 414 Clay st., San Francisco.

W. R. STRONG,

Commission Merchant,

And Wholesale Dealer in every description of

SEEDS,

California and Tropical Fruits, Nuts, Honey, and Agricultural Produce, Nos. 8 and 10 J Street, SACRAMENTO.

Orders for all classes of Merchandise filled and forwarded with dispatch. 6v2-3m

W. H. GOBRILL, Pres't.

F. MALOON, Sec'y.

Pacific Bridge Company

Are prepared to build Wooden and Iron Bridges on SMITH'S PATENT TRUSS PLAN.

Plans and specifications furnished to counties or persons desiring to build. Lithographs and prices sent on application.

Smith's Cast Iron Pier, durable as stone, and adapted to resist rapid currents, put in at low rates.

Address PACIFIC BRIDGE CO., 3v2-3m-cow Oakland Cal.

HOOKER'S Improved DEEP-WELL Pump

The best and cheapest Domestic Pump in the market.

BERRY & PLACE,

Wholesale Agents, 112 California St. San Francisco.

RIFLES, SHOT-GUNS, REVOLVERS, Gun Material. Write for Price List, to GREAT WESTERN GUN WORKS, Pittsburgh, Pa. Army Guns, Revolvers, Etc., bought or traded for. Agents Wanted. 6v2-6m



Volume II.]

SAN FRANCISCO, SATURDAY, AUGUST 12, 1871.

[Number 6.]

Cost of Raising Wheat, Etc.

EDITORS PRESS:—The following is the history of an experiment I tried this year in deep plowing. The land I selected was a tract of 58½ acres arable land, which had been cultivated with wheat for twelve successive years, except the year 1870, when it was used for pasture for cattle. It had been plowed usually with a gang plow, and never more than an average depth of three or four inches. This had been cultivated heretofore in connection with a similar field across the road with which I can now make the comparison of yield.

On the 25th of January, 1871, after all the adjacent fields had been plowed and sowed with grain, the plowing having been done with a gang plow, which, as in most cases, I supposed only scratched over the ground to a depth of not more than three to four inches. I had this field of 58½ acres plowed with the ordinary plow, being very careful to plow to a depth of not less than six inches, and to break up the crust, which had been formed under the previous plowing, and to bring to the surface new earth. The plowing, cross harrowing and sowing was not complete until the 5th of February, 1871, and yet we find the yield of that field nearly one-fourth more than those fields of same quality of land which were sowed nearly three weeks earlier, but plowed in the usual way.

As it may be interesting to know the cost of this field of wheat, I will give it below. The labor was all hired labor.

The wheat was put in by the 5th of February, 1871, and was thrashed and sacked on July 22d, 1871.

COST.

| | |
|--|----------|
| Plowing 58½ acres \$3 per acre..... | \$175 00 |
| 6,100 lbs. seed wheat cost \$2.75..... | 177 00 |
| Labor, heading the grain \$2 per acre..... | 117 00 |
| Thrashing, horse power machine. Labor 8 men \$1.50 each..... | 12 00 |
| Board 16 men 30c a meal, 2 meals..... | 9 60 |
| Board 16 horses 40c a meal, 2 meals..... | 12 80 |
| Machine 552 bushels, 4c..... | 22 10 |
| 256 sacks 14c each..... | 35 84 |

Total cost.....\$561 34

Yield of 58½ acres 33,193 lbs. of wheat worth to-day, say \$2.25 per 100 lbs., or \$746.84, which gives me a profit of \$185.50. It will cost me one dollar per ton to freight it to San Francisco, and in the warehouse it costs for storage 50c per ton for the first month, and 25c for each succeeding month. There are no charges for wharfage, weighing or drayage.

It must be remembered that this land is old and worn out, and had not been manured or rested, except as I have stated, yet it yielded in this most unpropitious year and dry season, an average of over nine bushels per acre. G. H. G.

The above experiment is an eminently suggestive one. We see first that an addition of about two inches to the depth of the plowing increased the yield of the field one-fourth in quantity. But as the yield was still only about 9½ bushels to the acre, and as the land has been sowed for nine consecutive years with wheat, it is but reasonable to suppose that it has become too much exhausted for the further profitable production of that cereal.

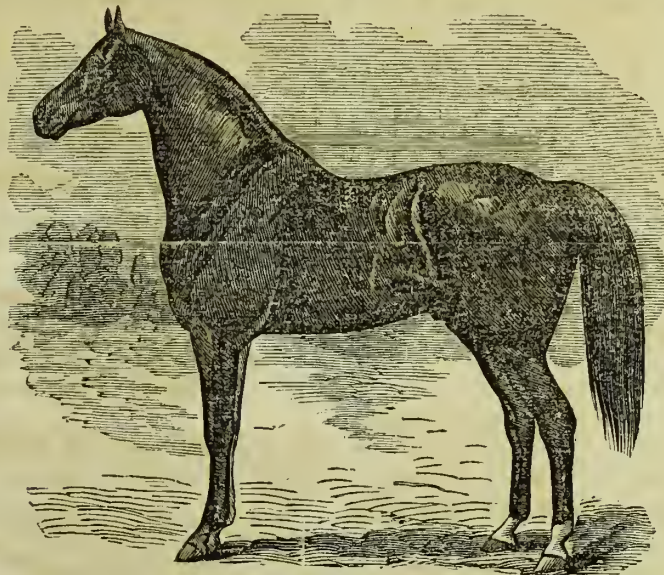
If the field had been properly cultivated in past years, either by a judicious system of rotation (if it is so located as to admit of the practicability of such a system) or by summer fallowing, accompanied with the plowing in of green crops, or some other mode of replacing the materials which the wheat has taken from the soil, it might very probably have yielded double the present crop, and at an extra expense (aside from the cost of manuring) of only about \$70.

The profit in such a case would have been about \$862.34, (minus the cost of manuring) instead of \$185.50. Of course there are many difficulties in the way of keeping up the yield of land in this State, but none which may not be overcome. And the sooner we accept the situation, and manage our farms as they should be managed, the better it will be for us.

We are speaking here in general terms. It is possible that the field here alluded to might yield a good crop in an ordinary season; but we may feel well assured that no amount of rain will compensate in the long run, for the deterioration of land by annual cropping of grain for ten or more years. The following article which we clip from an exchange may be read with interest and profit in this connection:

American Soils.

The deterioration of American soils has for a number of years past been the sub-



ETHAN ALLEN.

ject of warm discussion with agriculturists, and the conclusion has been reached that unless a different system from that heretofore pursued is adopted, the products of the cultivated acres of the country will not more than be sufficient to feed our population. The value of manures appears to be but imperfectly understood by American farmers generally, the impression prevailing in most of the better agricultural districts that it is next to impossible to exhaust their fertility.

The continually decreasing crops completely explode this opinion, and the efforts of scientific men are energetically directed toward the dissemination of more rational ideas. Were the same system of cultivation pursued in the United States as in China, we should be able to supply all the nations of the earth with food. The Chinese, according to late writers, who have closely investigated their system of farming, are unquestionably the best agriculturists and horticulturists in the world. Not a particle of manure of any kind is allowed to go to waste. Every portion, however minute, is jealously husbanded and applied to the soil. The result is that the whole country, so far as from being worn out or exhausted, is as fertile and productive as it was in the days of Confucius, thousands of years ago. American farmers might well take lessons from the Celestials in regard to the cultivation of the earth.

Celebrated Trotters.—No. 6.

Ethan Allen.

For beauty and capital action, the famous old horse, a life-like representation of which is herewith given, has never been surpassed. He is now twenty-one years old. He was got by the Vermont Black Hawk out of a gray mare said to have been of the Messenger blood, by Joel Holcomb. Trained young and found to be very fast, Ethan Allen was many years upon the turf. He never got down to near the time of Dexter, Lady Thorne, Goldsmith Maid, and George Palmer, but it is likely that some of his progeny will do so. His sons, Honest Allen, Hotspur, Billy Barr, etc., are very fast, and of his daughter, Pocahontas, we need make no more remarks.

GOOD COCOONS.—We have received a sample of cocoons produced this season by

ple. The Japanese are making great exertions to acquaint themselves not only with our political and educational, but also with our industrial institutions and improvements. And in return they evince a willingness to let us see what they have accomplished in the progress of civilization. These interchanges of products for exhibition at our industrial fairs are among the most efficient means for keeping up friendly relations and encouraging commercial exchanges between the governments and the people. Let us do all we can to secure the benefits of the rich commerce of the East across our continent.

The Commission to Japan.

We received last Saturday a call from Gen. Horace Capron, formerly U. S. Commissioner of Agriculture, and now at the head of the Commission appointed by the Japanese Government to investigate the resources of the empire.

The Commission will pay attention to the developing of the various branches of industry, agriculture, mining and manufacturing. The introduction of railways will also be an important part of their work. In the beginning, the principal work will be the introduction of improved methods of agriculture, and examination of the great mineral wealth of the country and of routes for railways.

Gen. Capron brings to the task many excellent qualities. His position as Commissioner of Agriculture has shown him to be not only of good scientific calibre, but also prominent as a financial manager. During the four years in which he has held this place, he has not only cleared off the debt of some \$60,000 which the department had previously incurred, but has also brought up the standard to a high level, has introduced and carried out many important projects, has added greatly to the scope and usefulness of the department, and now leaves it with the present appropriation of the year intact. A better record than this, no one could desire. Again, the General's wide experience as a large manufacturer and also as a prominent public man, has given him a knowledge of men, and a degree of tact invaluable in such a work.

Gen. Capron is aided by an efficient staff. Prof. Thomas Antisell, formerly of the University of Michigan, is a chemist of the first order, and well qualified as a mineralogist and geologist. Maj. A. G. Warfield, Jr., of Baltimore, Md., is commended highly as a railroad engineer, and especially as a good locator of roads. The Secretary of the Commission, Dr. Stuart Eldridge, of Washington, is also well spoken of for his literary and scientific attainments.

The General has a grave task before him, and one which will present many obstacles. He recognizes the fact and makes no parade of what he is to accomplish. We are all interested in his success, as a matter of national pride. We give him all our best wishes, and the hope that success may crown his efforts.

A. Moseby of Coloma, El Dorado county. They are of the Japanese bivoltine variety, of light green color, and of most excellent quality. They were produced, as we stated in this paper of July 29th, in twenty-one days from the hatching of the eggs. They are a convincing proof of the superior adaptation of the foothills of our State to the important industry of silk culture. This is the first effort at Mr. Moseby in this business, and from one ounce of eggs he says he produced fifty-five pounds of cocoons. On an average two hundred and twenty-four cocoons weigh a pound. We think, for bivoltines, it will be hard to beat this experiment.

The Japanese Exhibition at the State Fair.

We understand that arrangements are about completed, under which the Japanese goods sent out here by the Japanese Government, for exhibition at the Fair of the Mechanics' Institute in this city will also be on exhibition at the State Fair at Sacramento. This is a good move, and will result in a mutual benefit to the Japanese Government and to our own people.

SCIENTIFIC PROGRESS.

WEATHERING OF COAL.—Dr. Richters states that the property which coal has of taking up oxygen, when heated gently (as to 375° F.) is modified essentially by its percentage of disposable hydrogen. This first becomes oxidized, forming water; then the oxygen enters directly into combination with the coal. The carbon of stone coal possesses, at a temperature of about 372° F., a variable affinity to oxygen; as the smaller portion (5 to 6 per cent. of the total amount) combines with oxygen to form carbonic acid; the rest shows little or no affinity for oxygen. These two propositions apply equally well at the ordinary atmospheric temperature. The so-called weathering of coal he ascribes to the absorption of oxygen which in one case oxidizes a portion of the carbon and hydrogen of the coal, converting it into carbonic acid and water; in the other, enters directly into the composition of coal. If then the coal becomes heated in any way, a more or less energetic chemical action, varying in proportion to the elevation of the temperature, takes place upon the combustible substance of the coal; but on the other hand the process of oxidation proceeds so slowly that the changes occurring within the period of a year can scarcely be established with certainty, either technically or analytically. Moisture, as such, seems to have no accelerating influence upon the weathering of the coal, except in the case of coal containing a large amount of sulphuret of iron or pyrites. Pure coal, heaped up for nine months or a year, unprotected from the weather, and not allowed to become heated, is changed no more than it would have been in a perfectly dry locality. As long as an increase of temperature does not exceed certain bounds, as from 340° F. to 375°, there is no appreciable loss of weight by the weathering; and, in fact, there should be a slight increase in consequence of the absorption of oxygen. The decrease in value for combustible purposes, and for other technical applications, which coal experiences by the weathering, is produced by a slight decrease of carbon and hydrogen, and an absolute increase of oxygen in consequence of the exposure.—*U. S. M. & R. R. Reg.*

NOVEL SUBSTITUTE FOR GUTTA PERCHA.—A singular marine plant is washed up on the shores in the vicinity of the Cape of Good Hope, South Africa, which has come into considerable use as a substitute for gutta percha and similar substances, in the manufacture of fancy articles, such as canes, picture frames, inlaid work, etc. It is of a dark color, and, when fresh, it is thick and fleshy; but when it is dried it becomes compact, and its surface looks like a beautifully grained deer's horn. After it becomes dry and hard, it can be rendered soft again by steeping in water, and in this condition may be stretched and formed into various shapes. It can also be reduced, when dry, to powder, then made plastic by soaking in water, and in this condition it may be struck into almost any shape in a die press—coming out of the mould like articles formed of gutta percha. The plant is prepared for its industrial uses by cleaning it first with weak caustic alkali, and then with diluted sulphuric acid, after which it is washed, and before it is quite dry it may be pressed into sheets or any other form. It then may be rendered very hard by steeping it in a hot solution of alum, after which it is removed to a hot room where it is dried, and retains its shape afterward. Reduced to powder, it may also be mixed with various substances, like india rubber, and moulded into a great variety of articles.—*Coll. Courant.*

TRANSMISSION OF SOUND BY WOODEN RODS.—An interesting modification of Wheatstone's celebrated experiment of the Telephonic Concert was recently tried at the Central High School of Philadelphia. A rod of English deal, about twenty feet in length, and three-quarters of an inch thick, was let down through a platform into the room below. Insulation from the platform and the ceiling of the lower room was obtained by inclosing the rod with small sections of thick rubber hose. Against the lower end of the rod the sounding-box of a small tuning-fork was placed. On speaking or singing into the open end of this, the sounds were transmitted by the rod to the room above, the volume of the sound being increased by placing a guitar on the upper end of the rod. The experiment is exceedingly interesting and striking. Although the inter-

val between the notes is perfectly preserved, their intensity and quality are changed very decidedly, the effect being similar to that produced by ventriloquism. As the position of the rod is immaterial, striking effects can be produced as though by ventriloquism. A small figure placed on the end of the rod or on the sounding-box adds greatly to the effect. A song is transmitted in a very amusing manner. As it is preferable to have the sounding-box held so that the pulses should impinge in the direction of the length of the rod, the experimenter in the room beneath rested, for convenience, on a settee. This mode of transmission of sound does not, of course, give as good results as by means of hollow tubes, as the transmitted sound cannot be heard at so great a distance. It is interesting, however, from its novelty.—*Journal Franklin Institute.*

ORIGIN OF SPECIES.—Mr. John Fisk, in one of the University course of lectures, at Harvard College, gave a summarized outline of Darwin's theory, as follows:—"When analyzed, the theory of natural selections will be found to consist of eleven propositions, of which nine are demonstrated truths, the tenth is an inevitable corollary from its nine predecessors, and the eleventh is an admissible postulate. Let us enumerate these propositions: 1. More organisms perish than survive. 2. No two individuals are exactly alike. 3. Individual peculiarities are transmissible to offspring. 4. Individuals whose peculiarities bring them into closest adaptation with their environments are those which survive and transmit their peculiar organizations. 5. The survival of the fittest thus tends to maintain an equilibrium between organisms and their environments. 6. But the environment of every group of organisms is steadily though slowly changing. 7. Every group of organisms must accordingly change in average character under penalty of extinction. 8. Changes due to individual variation are complicated by the law of that change set up in any one part of a highly-complex and coherent aggregate, like an organism, initiates changes in other parts. 9. They are further complicated by the law that structures are nourished in proportion to their use. 10. From the foregoing nine propositions, each one of which is undisputably true, it is an inevitable corollary that changes thus set up and complicated must eventually alter the specific character of any given group of organisms. 11. It is postulated that, since the first appearance of life upon the earth's surface, sufficient time has elapsed to have enabled such causes as the foregoing to produce all the specific heterogeneity now witnessed."

DURABILITY OF IRON.—The late J. A. Roebling maintained that a good material and finished by the proper heat, by hammering or rolling, is stiffer and stronger than the same axle when again subjected to annealing without hammering or rolling; for, as annealing restores softness, but at the same time reduces cohesion and elasticity, to restore the iron of a brittle car axle fully can only be done by a full heat, with hammering or rolling, which of course reduces its diameter. The opinion, too, that a well drawn out fibre is the only sure sign of tensile strength, is true only when applied to ordinary qualities of bar or rail iron, the case being different with good charcoal irons and with steel. The greatest cohesion is accompanied by a fine, close-grained, uniform appearance of texture, which, under a magnifying glass, exhibits fibre, the color being a silvery lustre, free from dark specks. The finer and more close-grained the texture, the nearer the iron approaches to steel. Wire cables, car axles, piston rods, and all such pieces of machinery which are exposed to great tension as well as torsion and vibration, should be manufactured of iron which not only possesses great cohesion, but also a high degree of hardness and elasticity.—*Iron Age.*

PHOSPHATIC SAND IN SOUTH CAROLINA.—Prof. Shepard has described a deposit of sand over the phosphatic nodular bed of Stone River, which has resulted from the wear of the latter by the waters, and in some places is at least six feet thick. A portion of it, dry, was found to contain 27 per cent. of phosphate of lime, with 63.5 of sand and other matters. By agitation in water the most of the sand may be floated off, and the phosphatic portion thus concentrated to 37 per cent. of the remainder. This sand deposit appears to be very extensive. The phosphate is too impure for railroad exportation, but "for use on lands contiguous to water its future value cannot be doubted."

MECHANICAL PROGRESS.

ELEMENTARY AERONAUTIC APPARATUS.—M. Foselli, say *Les Mondes*, during the progress of the siege, has been very seriously studying the problem of navigable aeronautic apparatus. We shall not presume to say that he has solved the problem, but his attempt certainly presents some new and ingenious peculiarities. His *aerostat* is a simple cylinder terminated by a cone intended to cleave the air, and surmounted by cones called *compensateurs*, which, by means of a very simple apparatus, may be made salient or reentrant, so as to equilibrate all the variations in pressure of the gas; so that it is not necessary to throw out ballast, or to let off gas, in order to rise or descend. The cylinder index is firmly fixed to a metallic chamber or cylinder with inflexible walls, of the same length as the machine. The chamber carries at its extremities propellers or helices which are intended to drive and guide the vessel. It is divided into compartments, each having its special use. One is hermetically sealed and is to hold atmosphere to be breathed when at a very great height. M. Foselli does not think it possible to steer in the disturbed atmosphere of the region of snows; but intends to reach that great elevation in which there is absolute calm. He estimates that in the region of perpetual calms atmospheric tension is reduced to one-half of what it is at the surface of the earth. Hence it was necessary to assure himself by vigorous calculations that it would be possible at so great an elevation to introduce sufficient air into the living chamber to maintain an atmospheric pressure of 750 millim., which is necessary for the normal action of the essential organs of life. M. Foselli was much surprised at finding that the arm of a single man acting upon a single air-pump will maintain, at ordinary tension, an amount of air sufficient for the respiration of several hundred persons. In a very rarefied and calm atmosphere a very slight motive force, or a very small screw, is sufficient to make the machine move, even when loaded. * * * M. Foselli has discovered an unexpected fact which may lead to the means of navigating against the wind, or force the wind itself to give the machine a motion different from its own. He had suspended his model and had fixed to it two screws of like form and dimension, but mounted so as to act in opposite directions. These were set in motion by the descent of a weight. Who would not have supposed that under the action of these two screws, opposite in direction, equal and of contrary signs, the apparatus would have remained at rest? Yet it moved with a velocity greater than that due to the action of a single screw.—*Van Nostrand.*

PROTECTING TELEGRAPH LINES FROM LIGHTNING.—Much trouble has always been experienced from lightning on a section of telegraph line between Riverside and the stockyards, on the Chicago, Burlington, and Quincy Railroad. Poles are frequently shivered to splinters and much other damage done during the heavy storms which occur there during the summer. About a year and a half ago, Mr. F. H. Tibbs, tried the experiment of attaching a lightning conductor to each pole of this section, consisting simply of a No. 7 iron wire, one end of which was secured underneath the iron ring at the top of the pole, and the other buried in the ground, the wire making one complete turn around the pole two or three feet below the top. This simple and inexpensive precaution has thus far prevented any damage whatever from lightning on the section protected, although this is the second summer it has been in use, while formerly not a summer passed without several poles being destroyed in this manner.—*The Telegrapher.*

A MONSTER IRON OBSERVATORY is being erected on the roof of the Equitable Life Insurance Company, on Broadway, New York. It will be 22 feet high, while the roof of the building is 130 feet above the sidewalk. It will be constructed of iron, cased with slate, and the interior dimensions will be 10x14 feet. The probabilities of the weather will be indicated by balls 12 feet in diameter, which will be displayed upon two signal-staffs to be seen and understood from various points on Long Island Sound, Sandy Hook, and the inland waters of the Hudson and Harlem rivers. These will indicate where storms exist, and with how much force they are traveling. In the Equitable building will be exposed a large map, displaying all the immense ter-

ritory throughout which the service has its stations, reaching from Mexico to Canada, and from the Atlantic to the Pacific coast. The state of the weather will be indicated by ingenious dials at each of these stations, from which reports will be received at the Equitable every five hours. A bulletin hung by the side of the map will give the record of at least five preceeding observations. The observatory in this city will form a part of an elaborate and perfect system of meteorological observations along the coast and throughout the interior.—*Amer. Artisan.*

NEW STEAM TRAP.—Chatwood & Crampton's self-acting escape valve for drawing off water from steam pipes, etc., consists of a short vertical pipe, open at the top, which should be at a lower level than the cylinder or other steam vessel to be drained. Around the upper part of the pipe is formed a valve face, the face being downwards. The upper part of the pipe, with the valve-face above mentioned, is enclosed within a small vessel closed at the top and hanging at its lower end a neck, which fits on a parallel part of the pipe below the valve-face, and carries a corresponding valve seating set with its face upwards so that, when the vessel is lifted up, the valve and seating are in close and steam-tight contact, and when the vessel drops, the seatings separate and allow any fluid contained in the vessel to escape through grooves left in the neck. The action of this apparatus is as follows: When steam only is in the pipes, the vessel is pressed upwards, owing to the interior area of the vessel being greater at the top than at the bottom by the amount of the area of the valve face, and thereby the valve and face are closed together so as to prevent the escape of steam. When water is formed in the pipe by the condensation of steam, it gradually accumulates in the vessel until it overcomes the upward pressure of the steam, and causes the vessel to drop, thereby opening the valve and escaping through the grooves mentioned. When sufficient water has thus escaped, the steam pressure again lifts the vessel and closes the valve. Above the mouth of the vertical pipe is a guard, against which, when the valve opens, the condensed fluids are driven by the pressure in the steam vessel, so that, by their downward reaction, they tend to keep the vessel down and the valve open until the vessel is empty, or nearly so. A weighted lever, or weights, or springs, are also applied to the closed vessel, so as to regulate it to suit the pressure of steam in the engine or other steam vessel to which the apparatus is applied.—*Engineering.*

THE ST. CHARLES BRIDGE, over the Mississippi, is composed of seven spans, varying from 306 to 321½ feet in length, and 4,800 feet of iron viaduct approach. The piers are of masonry with foundations from 76 to 22½ feet below water level. There are three spans over the mid-river, 90 feet above low water and admitting 900 feet shift of channel. The use and fall of the river at this point is 40 feet, and the depth of scour is 43 feet. During the progress of the work the river attempted to change its bed, cutting in over 1,400 feet just above the bridge. The successful controlling of the river was probably the most difficult part of the undertaking.

IRON TELEGRAPH POSTS have been introduced with great success in Switzerland and are being extended daily. They have been put up along the railways between Basle and Dndingen, Otten and Zurich, and St. Gallen and Rorschach—a total distance of 250 miles. In Prussia they have been placed experimentally on the railroad from Weissenfels to Gera, and on the line between Berlin and Potsdam. It is thought that they will altogether replace the wooden poles in Germany.

LARGE ATLANTIC STEAMER.—The "Spain," lately built by the Baird Brothers, of Birkenhead, England, is one of the largest Atlantic steamers ever constructed. Her length is 437 feet, breadth of beam 43 feet, burthen 4,900 tons. She has accommodations for 1,200 first-class and 1,400 steerage passengers. Her engines are stated to be the largest ever constructed on the compound principle.

COPPER BALLOON.—A balloon composed of copper is so far completed, that it is now exhibited to the public; this immense globe is formed of sheets of copper, united and soldered. The object proposed by this experiment is to resolve the problem of the practicability of the employment of metals in the construction of balloons.

CORRESPONDENCE.

A Trip to Colorado.—No. 5.

BY OUR OWN TRAVELER.

Ores of Gilpin County.

A question which is asked by many is, as to the value of the ores here. I think that outsiders hardly do justice in their estimates. I can, however, in this matter but refer them to the columns of the *Register* and the *Herald*, where they will find the best information attainable. Mr. G. W. Baker in his pamphlet on the treatment of ores gives 45 assays of undressed tailings which show an average of \$27.86 per ton; 23 of blanket tailings average \$59.33 per ton; and 38 of dressed tailings average \$42.90 per ton. These figures will give a slight indication of what the value of the raw ore must be. From my talks with well-informed gentlemen here, I am lead to the belief that, with improved processes, Colorado is bound to be a first-class mining country. There is manifestly room for improvement here in the treatment of ores; but the ores occur in such enormous abundance that mining is sure to be profitable.

In this connection, I would also quote from a most excellent publication, the *Rocky Mt. Directory and Colorado Gazetteer*, published by S. S. Wallihan & Co., Denver. This gives a statement of ore extracted from the Kent county lode during five months in 1870, and then says:

"From this statement it will be seen that the cost of mining 1,375 tons, was \$7,125.25, an average of \$5.18 1-5 per ton, and that the stamp mill returns from this amount to \$16,827.25, an average of \$12.23 4-5 per ton. Add to the expense of mining, the cost of hauling the ore to the mill and milling, \$5.25 per ton, which amounts to \$7,218.75 for the 1,375 tons, and deduct these sums from the amount received, and the balance in favor of the miner will be \$2,483.25 clear gain above all outlays of every description. In this calculation, no allowance is made for the value of tailings. If the miner realized eighty per cent. from his 1,375 tons of ore, instead of thirty per cent. which is the highest average yielded by the stamp mill process, from some species of reduction works, which would not increase the expense of reducing the ore above that of the stamps, his profit on this amount of ore would be \$30,528.66, or about \$22.20 on each ton, a very handsome profit for five months' work, where only a small number of men were employed. These figures give not only a fair idea of the general expense of mining and milling in the gold regions of Gilpin county, but a glimpse at the enormous loss annually resulting from the absence of reduction works suitable for the treatment of sulphuret gold-bearing ores."

And from another table given, they draw the following conclusions: "This sum would be the total cost of mining 9,366 tons, with wages \$4 per day. Deduct from this twenty-five per cent., the difference between labor at \$4, and the present price, \$3 per day, which makes the sum of \$25,564.00, and we have, as the total cost of mining, 9,366 tons, \$76,692.09. As no deduction is made in this estimate for the decrease in the price of mining supplies since 1868, the actual expense of mining this quantity of ore, at the present time, will fall short of this estimate at least 10 or 12 per cent. From the best information we could gain from practical miners in Gilpin county, we think it fair to place the real average cost of mining gold ores at from \$4 to \$6 per ton."

Mr. G. W. Baker has been investigating the merits of the Kean machine for previous concentration of the ores. I would gladly quote at length, but my letter on this subject is already too long, I fear.

The Mills

For information concerning the mills, I must also refer to the papers above-mentioned. The old plan has been to crush over copper plates and blankets, and to concentrate the tailings in sluices. The Bartola pan has been used here very considerably for amalgamating blanket tailings, etc., but is not to be called a very good device. I could say that the machinery of very many mills is decidedly

old-style compared with other places. But I see such a determination to try new ways and the introduction of improvements, that I am afraid that my remarks may be old, before they appear in print. I will, however, speak of some of the mills which I visited.

The BORTAIL MILL, at Black Hawk, has 20 stamps and 3 large size Bartola pans which grind 600 pounds, in two charges, in 24 hours. Mr. H. Lake kindly showed me through this mill, which works on custom ore in part. The stamps weigh 500 pounds, drops 28 to 30 times per minute and crush 15 tons in 24 hours. The tailings are sold to Hill's smelting works for \$25 to \$30 per ton. The machinery, of good workmanship, was made by the Fort Pitt works of Pittsburgh. They have a Stillwell heater, and the engine is 20 horse power. They were, at my visit, working ore for the Bobtail, Fisk and Kansas lodes. That from the latter yielding 7 to 8 ozs. per cord. They use composition copper plates, which they like especially for low-grade ores. I was very much pleased with the management, which is alive to the times and ready to introduce any improvement for saving tailings or working ores.

The Consolidated Bobtail mine has its shaft No. 2 down 530 feet. There are 200 feet of water in the mine. A tunnel is now being run in from Black Hawk to save pumping, etc.

The SENDERFER MILL is superintended by Mr. C. F. Harpin and is at present working on Bobtail ores. It is run by water-power, has 20 stamps and 6 pans, and runs day and night. The FULLERTON MILL is also run by water-power. It has 15 stamps. Many other small mills are now at work when water is plenty.

The SMITH & PARMELEE MILL is located at the Gregory lode. The company own 200 feet on this lode and 800 feet on the Briggs. These two veins come near together at the top, but at the lower end of the shaft are 60 to 70 feet apart. The mill has 25 stamps, dropping 36 times per minute and 9 bartola pans. They run through 3 cords of surface ore or 2 1/2 cords of undecomposed sulphurets. The engine is 75-horse power. The shaft is 600 feet deep, is close to the creek, and is filled with water. The company could make no arrangements with the others higher up on the lode, and as they could not afford to drain other people's mines gratuitously, this is the result.

The BLACK HAWK MILL is the largest in the Territory, I am told. It was built in 1865. They have a 100-horse power engine, and forty stamps weighing 1,000 lbs., and 25 weighing 550 lbs. The heavy stamps drop 16 and the light ones 30 times per minute. It cost the company 19 1/2 cts. per pound for freight from St. Louis, on some 200,000 lbs. of machinery, which adds up to a very pretty sum. They have put up one or two buddles to run by machinery and have had shaking tables, but none of these satisfied them, and they prefer hand-buddling. They are running on custom ore, as their mine is not worked at present. Mr. Geo. E. Congdon is the superintendent.

The EMPIRE MILL, owned by Borham & Miller, has a 25-horse power engine and 20 stamps. It runs night and day in Gregory 2d ore, which yields about 8 oz. gold to the cord. In their last 30 days' run they worked 60 cords. The tailings yield about 1 1/2 oz., to the ton and are sold to Hill's smelting works.

The SAULISBURY MILL is owned by Mr. E. L. Saulisbury. The able superintendent, Mr. A. Behr, kindly conducted me through the works. There are 20 500-lb. stamps, dropping from 25 to 30 times per minute, and two pans. They have here a Keith furnace, which is not running, however.

The POLAR STAR MILL has 32 stamps and crushes 24 to 25 tons per day. It has also 8 sets of Chili mills. The owners are Kimber, Garret & Co. The mill runs on custom rock. They use water-power at present. Indeed many of the mills in North Clear Creek gulch use water-power at this season of the year, and steam-power the rest of the time. Water is abundant about 4 months.

Boston and Colorado Smelting Works.

I visited the Boston and Colorado Smelting works, which are under the management of Prof. N. B. Hill, who kindly conducted me through the establishment. This was built four years ago and has been running ever since. The assaying department and the technical conduct of the works are under the more immediate supervision of Mr. Herman Beeger (?) who has had an experience of over 25 years in this business.

The grounds occupy an area of 1,000x250 feet. The first place I visited was the de-

partment where men were employed washing ore from the Pewabic lode. This is very clayey and is first concentrated in long sluices and then in jiggling machines, of which they have four.

I next went to the mill where the matt produced is crushed and ground, then sifted and sacked for shipment to Swansea. The average shipment is 40 tons per month.

There are three large reverberatory furnaces for smelting, 9x13 feet, with a stack 50 feet high, 3 feet square at the bottom and 2 feet square at the top. The charge is two tons, and is drawn every six hours. Concentrated tailings are bought from the stamp mills and used for fluxing. For these they pay in currency the full value of the gold and silver contained less, \$24.

Previous to smelting the ores are roasted in heaps of 150 to 200 tons each. This operation requires some two months.

This company has some 3,000 tons of ore now on hand. The capital invested is stated to be \$300,000. They employ here 40 men, and 20 more in getting and hauling wood which averages \$5.50 per cord; 40 cords are said to be burned in 24 hours. The fire brick comes from Golden City.

The works treat only first-class ore. The management has been an eminent success, although all other attempts at smelting made here have failed. The company undoubtedly makes large profits.

Blooded Stock at Salt Lake.

[From our Special Correspondent.]

EDS. PRESS:—We have enjoyed a pleasant though "short season," here at Ogden City, mostly among the farmers, who have come in from the Cache Valley and vicinity to attend the grand Mormon jubilee, held annually on the 24th of July, at some place within the Territory where all the officials of the Church—and a portion of "the rest of mankind" congregate to celebrate the incoming of the first great delegation of the Church of Latter Day Saints. In this connection, we desire to notice, briefly, the arrival in this city a day or two since, of Colonel Peter Saxe, the noted eastern dealer in improved breeds of stock.

His cattle are the famous "short-horn" breed, (Durhams) and are twenty-three in number, bulls and heifers. They are thorough-bred, "American Herd Book" register, and are from fourteen to thirty months old; but few of them, however, going beyond sixteen months. They are pure reds, whites, roans, varied, and red and white, the red preponderating. There are also one hundred and sixty head of "thorough-bred" "Cotswold" ewes and rams, the yearlings among which average, it is said, from one hundred and seventy-seven to two hundred pounds weight; their fleeces are also about thirteen pounds, and in length, varying from seven to sixteen inches. The whole of the animals have been purchased from 41 of the best folds in Kentucky.

All of this stock, cattle and sheep reached the terminus at Ogden on Friday evening. The amount of means invested by the gentleman is upwards of seventy thousand dollars; and the Cynthia, Ky., *News* of the 22d ult., in noticing his purchases, says they constitute the largest exportation in number and cost, ever made from that State.

This stock was purchased in the famous stock counties (the "Blue Grass" counties) of Bourbon, Fayette, Scott, Harrison & Clark, making nearly a clean sweep of all the pure-blooded young Cotswold sheep for sale, in the State. The numerous parties by whom the animals were sold gave Colonel Saxe along with each a full and guaranteed pedigree of both sire and dam. It is claimed and conceded by the most experienced breeders in that State that the progeny of the Cotswold stock, bred in Kentucky, are superior in carcass and in the quantity and quality of the fiber of the wool, to those of their sires and dams imported hither from England and Canada. This remarkable fact is attributed to the dry and equable climate of the State, while that of England is damp and variable, and that of Canada is prejudicial, on account of the long and cold winters and often excessively hot summers. The design of Col. Saxe in exporting this fine stock is to increase the carcass and the quantity of the wool of the Mexican breed in California and Oregon.

Col. Saxe sold to Joseph A. Young three of his beautiful short-horn heifers; three of his bulls to Bishop Preston, Geo. L. Farrel, Esq. and Bishop Loren Farr; also some of his fine 200 and 300 pound lambs and sheep to Messrs Jennings and Geo. Q. Cannon, (editor of the *Deseret Daily News*) Bishops Woodruff and Lay-

ton of Salt Lake City; also to Messrs. John S. Smith, Kimball and others, some thirty head in all, in this vicinity.

We congratulate these leading stock men of Utah—who were able and willing to invest so liberally in these splendid animals. Col. Saxe, will start for the golden State—at once with the balance of his extensive fold and herd. We learn that much of it, is already engaged in the vicinity of Petaluma, Sonoma county.

It will be remembered that this gentleman was at our last State Fair, with a fold of these fine Kentucky Cotswolds, and took several of the leading premiums; also at Stockton, San José and Petaluma. This stock being of the first-class, we hope Californians will not allow a hoof of it to pass by to Oregon. Especially as the prices are quite as low as it is sold in Kentucky.

Mining About Ogden.

I find that there is some little mining excitement at this place, and some few lodes have been taken up and recorded, with regard to which I have gathered the following from those who appear to be well informed on the matter.

The mines are all located in the Wahsatch range of mountains, and among them have been found several

Tin Lodes

Which are located about three miles from the city. One is named the Morning Star, and is owned by Horracks & Co., of Ogden. It is said that this lode averages 20 feet wide at the cropping, and can be traced for some distance. Assays made in St. Louis show that the surface rock will yield 70 pounds of tin to the ton of rock; while at the depth of ten feet it showed a yield of 210 pounds to the ton.

The Star of the West, is another good mine, from some ore from which a small bar of tin was obtained by Parpe & Boessel, assayers of this city. This is represented to be a large and extensive mine, and the owners have sent a large quantity of ore to St. Louis for assay. I hope to get the returns in a short time, when I shall be able to advise you of its value.

Specimens of this ore and the metal taken from it will be sent to the Mechanics' Exhibition in your city. An assay of this ore, here, returned 256 pounds of tin to the ton of ore.

The Uncle Sam lode, one mile from this city yielded \$48 in gold and \$26.70 in silver from surface rock, by a late assay. These and some few other locations are the first attempts at mining or prospecting for mines in this part of Utah, the inhabitants of which are not as yet very well versed in prospecting. The Mormons here, say that if gold and silver or tin are to be found in these mountains they wish to be the folks who get it. Heretofore, however, they have given all their attention to farming and gardening. Leaving Ogden, and passing a few miles west I arrived at

Brigham City.

Here I also find the Latter Day Saints talking about mining matters, and it is said that the farmers and other good citizens of this burg have formed an association on the cooperative plan for prospecting. They have already found some very good prospects, and have run a few drifts; but it being now harvest time, they have left the mines and gone to the fields to gather the golden grain. After harvesting is over they will renew their prospecting operations with a good heart. They expect to send a few samples of their minerals to the Exhibition in your city.

The New Woolen Mill

Is now in operation, and doing a good business.

The Orchards and Gardens, Etc.

The orchards are in full bearing and loaded with fruit—apples, pears, peaches, apricots, etc.; while the gardens are teeming with their produce of vegetables, melons, etc. The fields also look well, as a general thing. The corn is good and so is the wheat and oats, where the grasshoppers have spared them. These insects have been very destructive in some locations; but the "Saints" bear it with a most commendable patience and resignation, saying that God sends destruction first to the "House of the Lord."

Many about here are going largely into the business of stock raising as will be seen by the former part of this communication. We wish the people here the fullest measure of success. They have certainly been very persevering and industrious as is shown by their early presence in this distant mountain valley, and the manner in which they have subdued it from Nature's wildness and solitude, and brought it up to its present high state of cultivation. Yours truly, M.

HOME AND FARM.

Santa Clara Farmers' Club.

This Association has held several meetings during the past month from reports of which in the *Santa Clara Agriculturist* we glean the following:

Best Method of Cultivating the Santa Clara Valley.

Mr. Holloway thought that summer-fallowing was not economy on the lands of that valley. He believed in rotation from corn to hay, grain, pasture. His rich land land to corn last year, in grain this year, went to straw with poor results. His upland pasture last year, made a good crop of grain this year with little straw. The corn land was plowed deep, while the upland was plowed shallow, but thoroughly cultivated.

Mr. Ware thought it depended very much on the season and the soil when and how to prepare and plant. He did not feel at a loss in any season. His ranching was principally grain and hay. We need to think more. Agriculture is not a science until we make it so. He did not claim to be a farmer, for good farming is to raise a variety of products. Like many others on large farms, he had cultivated with an eye to immediate profits. But he deprecated the one-idea farming. Diversity of crop, widens the mind and creates healthier ambitions.

An Important Suggestion.

He thought Mr. Holloway's wheat on the corn land failed, not on account of straw so much as a lack of moisture at the very time of heading and filling. The rapid growth of straw exhausted the moisture and then failed, while the upland, not so rich, produced less straw but supplied a constant moisture to the grain. The deep-rooted corn drew heavily on the subsoil last year, and our light rains did not more than fill the surface soil. When this supply was exhausted by rank growth of straw the crop failed.

The difficulty in dry years is the lack of moisture at the time needed. Therefore in dry seasons the poorest soil yields the best grain, because the growth of straw is not great, and the store of moisture lasts longer, and until the grain is matured. His best wheat this year was on gravelly soil. He thinks the gravel kept the soil cool and prevented too rank a growth before heading. He believed in good cultivation.

Mr. Peebles thought Mr. Ware's idea about the best wheat on poorest soils would not apply to all soils.

Deep and Shallow Plowing.

Mr. Peebles advocated plowing at a moderate depth, pulverizing thoroughly. He thought that the wide-spreading harrows commonly used were not the thing. The harrow should run as deep as the plow, to do good work—should be small and heavy. The wide harrows only drag over the surface of hard soils with only a slight scratching.

Mr. Casey was opposed to a general system of deep plowing. His experience is, that surface cultivation is best for our soils and climate. He had tried deep and shallow plowing in nursery, orchard and field, and had always met with the best results with light but thorough surface tillage. His early education and prejudices were favorable to deep plowing. But he found here with deep plowing the soil would settle heavier than it was before—when it became saturated and had a tendency to run and cement all together like molten matter. He believed it would ruin a good deal of our soil to practice deep plowing as a rule. We have no hard-pan to contend with in the subsoil. A light, shallow cultivation will allow the winter rains to fill the naturally porous subsoil, where it is held for the summer growth of plants. The surface cultivation dries out and acts as a mulching to the strata beneath, which supplies richness and moisture by capillary attraction.

Mr. Garrigus said that owing to a greater diversity of soils in this State than in any other, the method of cultivation that would suit in one place would not do in another. Where the loam is deep, and light to a great depth, the subsoil needs no handling. He gave an instance where one of his neighbors, last fall, skimmed his soil with a gang plow, sowed wheat and harrowed with a light, wide harrow. It came up very thick to mustard. This year he plowed everything under and sowed to wheat again, and got a fine crop—better than his neighbors that plowed carefully and sowed early on clean soil.

Mr. Haskell was prepared to hear a great

diversity of opinion on the subject of deep plowing. The newspapers throughout this coast have a very cheap and convenient way of accounting for all failures among farmers from shallow cultivation. Deep plowing is the one eternal lobby. But facts and experience go to prove that deep plowing was quite as often a failure as shallow plowing, even in dry seasons.

Mr. Dubois—My soil is rather light, but deep. I believe that where soils are rich, shallow plowing is best. On poor soils deep plowing gives the best results.

Summer Fallowing, Manuring, Etc.

Mr. Peebles advocated summer fallowing occasionally. Pasturing after a grain crop is a good thing to clean the land from foul weeds, etc. Had seen a fine crop of wheat follow barley. (Here some one remarked it would foul the wheat to follow barley, as more or less of the barley would scatter for seeding and mix with the wheat. It would be best to sow wheat first, then follow with barley next season). Advocated beet culture to clean the land, and as a profitable stock and rotation crop. Would not manure his land for grain, as it would make too much straw, and fail to make good grain. Cropping to hay was very exhausting to the moisture in the soil.

He opposed late sowing as the straw grows too rapidly and is weak and thin, while the grain is very chaffy. Early sowed grain grows slower with more stocky straw, and produces better heads.

He believes in rolling his grain land as hard and smooth as he can get it. When the young growing grain, from an abundance of richness and moisture in the soil, is of so rank a growth as to indicate that it will lodge and become rusty, he either pastures or cuts it down once, and lets it start up anew. In this way he can get a good quality of straw and fine grain.

Mr. Holloway believed in the efficacy of manures, which he advocated strongly. Mr. Casey thought we needed a chemical analysis of our soils so as to know what to apply as fertilizers. Mr. Herring thought that certain ingredients might be plentiful in the soil, yet so indurated as to be of no use as plant food. Plants drink, not eat, and the necessary elements must be soluble in water to be of economic value as plant food. The mineral salts are frequently too abundant, as in our alkaline soils. Vegetable manures, and thorough tillage are the main things to apply on our valley lands.

Diversified Farming

Formed the subject of discussion at the next meeting. The experience and observation of each speaker rendered him favorable to the diversified crop system, and it was generally conceded that, in order to be successful as a farmer, the operator should have a sufficient variety of products to engage a portion of his time every week in the year. The best farming was not necessarily that which sent to market the largest amount of grain or other raw material of the vegetable kingdom, but that, rather which appropriated, utilized and turned to profit the greater amount at home, in the way of sending fat hogs, fine horses and other useful stock and domestic products to the trade marts of our own cities and those of the world.

The Best Method of Marketing Farm Products

Was discussed at the meeting, July 22d. the discussion was kept up with spirit for four hours, resulting in the unanimous opinion that the best methods for marketing the produce of the farm, were those which removed the necessity of a middleman between the producer and consumer. At the close of the discussion, it was ordered by the Club that the Board of Managers establish, as soon as possible, a marketing place in this city to be known as The Market Exchange of the Farmers' Club, and employ some competent person or persons to take charge of the same, and receive from producers all articles offered for sale, and sell the same to the people, at producers rates, thus securing to the farmers a ready and reliable market for their produce at a fair price, and at the same time to furnish to the people the best things of the season at a rate that will enable all to supply their wants and have a little of their substance left for their own uses.

WINTER IRRIGATION, or the overflowing of lands during the wet season is going to become popular, and largely practiced in many localities in California. It is not a new idea to many in this State. It has already been alluded to in these columns, and has been practiced for years in some sections. Thousands of acres were irrigated on the Calaveras river during last winter, and the effect was very marked and favorable.

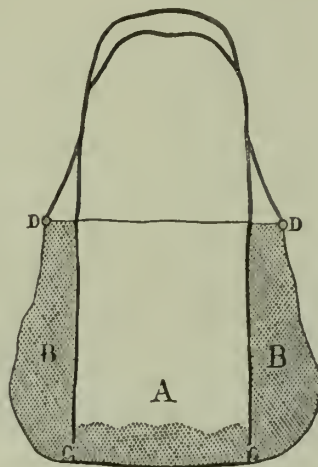
Chicory Factory Near Stockton.

Meine & Raab, late of this city, says the *Stockton Independent*, have built a chicory factory on the San Joaquin river, about ten miles from Stockton, and will have the machinery in running order by the last of the present week. The factory consists of all the machinery and apparatus necessary for the reduction of chicory to a powder resembling ground coffee. There is quite a populous German settlement in the neighborhood of the factory, and they propose to cultivate the chicory extensively. Meine, who is a practical manufacturer of chicory, and has had much experience in the business, is confident that a profitable market will be found in the Pacific States and Territories for the product of his mill. It is well known that chicory is extensively employed in the adulteration of coffee.

Chicory has been manufactured for several years in this city, and we believe has been found a profitable business. It has even been found to pay for shipment to the Eastern States, where there is an annual market for many thousand tons, the most of which has heretofore been imported from Germany.

Patent Nose Feed-Bucket.

We were shown, in New York, by the inventor, Mr. W. A. Hough, of South Butler, Wayne Co., N. Y., what seemed to us



a very desirable improvement in this class of article. The accompanying drawing, made from memory, serves to show its main principles. To the main bucket, A, are attached bags or pockets, B, B, into which is put the feed. At C, C, are left openings through which the feed finds its way into the main compartment, A, as fast as the animal eats, and no faster, for as soon as the grain has filled A to a certain height, it acts as a gate and stops the supply entering through C, C, until the horse has lowered its level again. There is a wire stiffening as denoted by D, D. The article is cheaply constructed and will last a long time, as the animal does not thrash it about in order to get the feed from the bottom, as is the case with ordinary feed-buckets. It is an advantage to the animal as well as to the owner of the article.

CHOICE POULTRY AND STOCK FOR CALIFORNIA.—Tom Finley, on Leidesdorff street, has arrived from the East with about eight hundred head of stock, including chickens, ducks, pigs, prairie dogs, etc. Mr. Finley has taken great pains to select for the California Poultry and Stock Association, which he represented, none but the choicest varieties, and several New York papers have commented on the good judgment and zealous care exhibited by him in his purchases, while in that city.

THE COTTON GROWERS' ASSOCIATION.—Julius Chester of Bakersfield, Kern county, has been elected President of the Cal. Cotton Growers' Association for the ensuing year. Mr. C. is a subscriber to the stock of that company to the extent of \$55,000.

Important Railroad Sale.

The Central Pacific Railroad Co. has finally bought out the California Pacific lines of road from Vallejo to Sacramento, Marysville and Calistoga, as also the line from Donahue to Healdsburg, together with all the boats formerly belonging to the California Steam Navigation Company. This sale places in the hands of the Central Company nearly every mile of railroad in the State. It is said to be the intention of the company to lay a double track between Sacramento and Vallejo.

This purchase leaves the company free to decide upon the question of its permanent terminus, without any reference to competing lines. What that decision will be is perhaps as difficult to conjecture now as ever. Judging from apparent preparations, however, and the large amount of money invested in city front property in Oakland, there is but little doubt but that city will continue to be the principal freight terminus, at least. The machine shops of the company will no doubt be located there permanently; neither can we doubt but that this city will eventually become the real terminus of the road, by means of a bridge spanning the bay from Alameda.

We trust and have reason to believe that this transfer will lead to the early completion of the roads already projected or in process of construction by the California Pacific Company. It is also believed that the Central Company will manage the immense interest, now in their sole possession, for the general good and prosperity of the State; for aside from patriotic considerations, there is no other way in which they can so effectually subserve their own interests.

Answers to Correspondents.

APPLE PARERS, ETC.—Hopeton, Merced Co. Please inform us in the *PRESS* the name, and price per dozen of the most economical apple parers in use, and those doing the best work for drying purposes. J. H.

The best parer we know of is called the Turn-table, Lockett & Howland, patentees; sold in this city at \$1.25 or \$12 per dozen. The best parer, corer and slicer is the Whittemore patent, selling at \$1.50 or \$16 per dozen. There is also in this market the Lightning peach and apple parer—Sargent's patent. Its prongs are jointed so as to open and clasp around the peach pit. Price \$1.50 or \$15 per dozen. These are all ingenious pieces of mechanism and have been in the market and in practical use for some time. We hope to see their use greatly extended on this coast, so that we may soon export instead of import dried fruits.

CHANGE OF BASE.—Isaac B. Rumford, Esq., our late correspondent at Vandalia, Tulare county, writes from "Plano," in the same county, as follows: "You will notice my letter is dated at 'Plano,' now, instead of 'Vandalia.' The reason for the change is that the latter place being built down on the bottom land of the Tulare river, was sickly, so that locality has been given up and we have started a new town; out here on the plains, where it is healthy. We have moved the church out and got a new post office; have a good school and are ready, now, for settlers. We had a temperance meeting last Saturday night at the Plano schoolhouse, and intend to have them each month; have sixty names to the pledge.

We are busy on the farm, putting up a Wilcox steam water lifter, which is to furnish 1,500 gallons of water per hour. Next month I may be able to let you know how it works. Something of the kind is much needed on thousands of acres of land, where ditches cannot be employed, and I hope this will be the right thing. It would be a great advantage to the farmer if all would give their experience on the subject of getting water for irrigation; what it costs per acre, etc. Mr. R. sends his meteorological report for the month, which will be found in its appropriate place.

AGRICULTURAL NOTES.

CALIFORNIA.

YREKA.—The *Journal* says that in Big valley emigration is lively and crops good in that vicinity. All that is needed is a market for produce, and the country will raise an abundance of all kinds and of the best quality.

HALF A CROP.—The *Union* learns that the grain crop on Willow creek, which is about all threshed now, did not turn out as well as was expected. It did not average over a half crop. In many fields the straw was large and fine, but the heads were not well filled. Meadows on the creek did better, and some of them yielded a splendid crop.

GOOD WOOL CLIP.—The same paper says:—Mr. L. R. Parker, formerly of Willow creek, in Shasta Valley, but now located on Parker creek, in Hot Spring valley, sheared the present season from 2,000 sheep 8,746 pounds of wool. The wool was of excellent quality. He has raised also 1,100 lambs.

CROPS IN NAPA.—The *Register* of Aug. 6th says: The farmers of Napa ought not to find much fault with their present grain prospects, when contrasting them with those in other portions of the State. We have at least got a crop that is remunerative, and which, at present prices, is likely to bring in a good round sum of money. We do not think there are more than three counties in the State which can present as favorable grain reports as Napa. Sonoma, Mendocino, and Lake will probably be about on the level with her. As to the fruit crop, we are specially favored. There is a great abundance of all kinds, except peaches. This fruit is a little short, this year, and those of the first quality bring an exceptional high figure. The grape crop, so far as we can now judge, is likely to be one of the very best. We can hardly see how the immense crop is to be disposed of. Looking over the whole field, we think that our resources this year are rather beyond the average; and that on a calm and deliberate examination of our crop prospects, it will appear that Napa county is still ahead, as she always was, in fertility.

CASTOR BEANS IN YUBA.—Mr. Joseph Jasper, of Yuba county says the *Sac. Union*, has field of 50 acres of castor beans, which promises to do well this season. The stalks will average from three to four feet in height. The harvest has already commenced and will last till frost comes; the beans being now in every condition of maturity, from those just starting until they arrive at maturity. They are picked once a week, as they mature. Castor beans are worth in this State from four to five cents a pound, and a good average crop is about two thousand pounds to the acre. The ground upon which Jasper's crop is growing is on the Bear river bottom, composed of a sandy sediment. Other parties in Yuba county, among whom are the Briggs' Brothers, are also successfully producing this crop and manufacturing the oil.

The Marysville *Standard* says that Jos. Gelzhenser, of Yuba City, has a twenty acre corn field a couple of miles from that place, which averages its stalks at sixteen feet high, and they are still growing.

THE HARVEST IN LAKE COUNTY.—The farmers generally throughout the county, says the *Lower Lake Bulletin*, are busily engaged in harvesting their crops, as it occurs to us from the unusual activity displayed by some of them in the purchasing of the necessary machinery for that particular branch of industry. There being a large amount of grain planted last winter, we may look for a larger yield by one-half than has ever been produced in the county before in one season. In Big Valley, where the land is good, the yield of wheat per acre is quite large; from the prices now quoted in the market, the farmers will receive a handsome reward for their season's work.

CROPS IN MONTEREY.—The potato and bean crops, says the *Castroville Argus*, of August 5th, are coming on finely under the influence of the heavy fogs that have prevailed of late, and there are crops of English mustard on the Cooper ranch that promise to yield extraordinarily. James Gallier has harvested his, and informs us that the entire piece of 50 acres yielded an average of 15 sacks to the acre. J. W. Robb has also a very promising mustard crop, but his 80 acre barley field on the same ranch yielded only a little over 27 bushels to the acre. We were agreeably surprised last week to see on the Parsons & Church farms in the hills, about three miles east of town, as thrifty corn, beets,

and other such crops, as can be found anywhere, growing high up on the hill land without any irrigation whatever.

PASTURES IN SALINAS.—Pastures are in demand in Salinas Valley at present, and owners of hogs, sheep and cattle are paying fair prices for the use of the stubble fields already cleared of grain.

The *Democrat* says that as is their custom in this climate, farmers are proceeding very leisurely with the harvest. Barley, the first to mature, is of course reaped. Its yield is more than fair, though the price now offered is not high—\$1.20 the cental on the ground. Wheat as a rule is of good quality, in plumpness and weight going beyond expectation.

FRUIT GROWING, ETC. IN LOS ANGELES.—When industry and energy combine to develop the vast resources of our soil, says the *Los Angeles News* of August 1st, the result cannot be doubtful. On the premises of Dr. V. Gelcich there is a lemon tree four years old, densely loaded with fruit of all sizes as well as with buds and blossoms. A fig tree of the same age is thickly clustered with fruit, while the apple and peach trees seem to be equally favored by our climate. Melons thrive; everything seems to do well. All that is needed, even on the soil of our hillsides, is water, and this may be had by digging. The view is superb and unequalled by any prospect afforded from any other standpoint.

WINTER IRRIGATION.—Many of the farmers of Los Angeles county assert that next winter they intend, rain or no rain, to irrigate land intended for cultivation, believing that land well soaked during the winter will retain sufficient moisture to make crops without irrigating during the summer months.

RICE PLANTING—CAUSE OF FAILURE.—The *Los Angeles Star* says: The attempts made last year to sow rice in this county were failures, it is said, because the grain was not planted at the right time, nor in proper locations, nor properly cultivated. We hear that some one on the Santa Ana has a small crop of rice this year that is looking well and promises a good yield.

SAN DIEGO.—The *San Diego Union* of July 27th reports grape vines from the slips only four months which are bearing in Cajon Valley. The crops in that valley, though far short of what they would have been with rain, are still in several instances sufficiently large to pay expenses. Mr. O. J. Miner had about 300 acres under cultivation, the greatest portion of which was wheat, which he has finished threshing, making about 70,000 pounds—about one-seventh of a crop. In the neighborhood of Ballena, owing to discouraging appearances, many of the farmers were deterred from putting in any seed at all. Those who made the venture, however, were well rewarded, as the crops of all kinds this year are so much above the average.

GOOD YIELD.—A gentleman named Countryman, farming a short distance outside of Napa, a few days since, says the *Vallejo Chronicle*, took in the account of his grain harvest, showing an average of 2,585 pounds to the acre. This may be considered a good yield, and the result of careful and industrious farming.

TULARE.—The *Visalia Delta* of the 27th ult. says that farmers on the Tule river have been threshing and that the yield is greater than was anticipated. The fruit crop is remarkably good.

CROPS IN SAN BERNARDINO.—The *San Bernardino Guardian* gives the following relative to the crop prospects of that county: "Grain threshers, to the aggregate capacity of fifty horse-power, will be engaged for two months in threshing the grain crop of San Bernardino valley, for this season. The wheat crop is very good, and the prospect for large corn crops is flattering."

OREGON.

GRAIN CROP IN GRANT COUNTY.—The *Williamette Farmer*, learns by letter July 17th "that the grain crops about Canyon city, Grant county are unprecedented. A bountiful harvest is at hand. Grass is still abundant, and stock of all kinds are in fine order. Beef, uet, is worth seven dollars per hundred delivered at the slaughter-yard. The weather has been extremely warm for the last six days, the mercury going as high as 90 degrees. Water is running low."

IMPROVED CATTLE FOR OREGON.—Mr. B. E. Stewart of North Yamhill valley has just left for the Atlantic States to procure additional stock for their already fine herds. He hopes to return in time to show his imported stock at the State Fair.

The Messrs. Stewarts have but recently

turned their attention to the breeding of fine stock, but long enough to show that they can make it pay, and that in their hands at least the business is a success.

SCARCITY OF LABOR.—The Farmers throughout the Williamette Valley complain of a great scarcity of farm laborers.

OCHOCO VALLEY.—Mr. P. T. Crawford of Portland informs the *Williamette Farmer* that stock in that valley and vicinity is in the best condition. Grass continues plentiful. Where facilities for irrigation are good, the wheat fields look well.

Much complaint is made by the stock-raisers against the agent on the Warm Springs Reservation, for allowing the Indians to hunt at pleasure over the country occupied by stock. The Indians do their hunting on horseback, and when a band of deer is found, chase is given, and continued until the game is captured. In these chases, bands of cattle are frequently stampeded, and hence the complaint.

THE WILLAMETTE VALLEY.—A correspondent of the *Bulletin* of this city, writes from Oregon, as follows: The Williamette Valley will some day, not far hence, contain 1,000,000 of inhabitants and produce 1,000,000 bushels of wheat. Many cities can justly claim to be the great centres of trade and commerce, but the Williamette Valley is to be the grainary of the Pacific slope, and has the water-power that will manufacture the cloth that will clothe the people of the Pacific coast.

LINN COUNTY.—The same correspondent writes of Linn county, which forms a portion of this valley: It is considered the richest county in the States and is generally known as the "Banner County." It produced last year 1,500,000 bushels of wheat—500,000 of which were shipped from this city—Albany—and not more than one acre in twenty was sown that could have been sown, and each acre sown would have produced 45 bushels in place of 30 bushels, if the cultivation was what it should be. The most desirable lands in the county are all sold and are held from \$15 to \$25 per acre. Many good farms, well cultivated, with good house and offices sell freely for \$30 per acre.

Klickitat.—The valleys of the Klickitat and Yakima are overrun with stock. Without an increased demand from abroad for the surplus, beef is likely to become a drug in the market. Stock raisers of Oregon are advised to pay more attention to sheep.

CROPS IN YAMHILL.—A correspondent of the *Portland Bulletin*, from Yamhill, says: Hay harvest is nearly done, with a moderate yield. Wheat harvest is good, but spring wheat and oats will be very short on account of so much dry weather; the wild oats has damaged some crops. We are hopeful of having a good market for the surplus grain.

OREGON HARVEST.—Harvesting is now in progress in the Williamette valley, and the crops are said to be magnificent. One of the advantages of Oregon agriculture consists in the fact that the crops never fail there.

EXPERIENCE in Eastern Oregon shows that sage brush land, when irrigated, always produces good crops of hay, grain, etc.

ATLANTIC.

THE WHEAT CROP.—The July report of the Agricultural Bureau, at Washington, says the condition of winter wheat on the 1st of July was rather above the average; but the spring variety presented a very unpromising appearance. The winter wheat was a full week earlier than usual and the harvest had already commenced at that date.

The agricultural interests of Minnesota, after suffering terribly from a series of tornadoes and hailstorms which destroyed buildings and beat down the grain in the fields, are now threatened with utter devastation by swarms of ravenous grasshoppers, which have made their appearance in Renville county, and are robbing their fields of their wealth as they move northward.

The watermelon trade in Augusta, Ga., is becoming a large and important industry. Small farmers, planting from four to ten acres with watermelons, clear a larger profit than can be realized in large cotton plantations, and with less care and labor.

The planting of rice in Louisiana has fallen off so that a crop of 80,000 barrels, or 16,000,000 pounds is considered an outside estimate.

The estimate of cattle likely to be driven North from Texas this season is put at 500,000. Over 30,000 head have already been received by the Kansas Pacific Railroad.

An Agricultural Paper on Hay and Sugar Making.

The *Santa Clara Agriculturist* still persists in pronouncing "simply preposterous" and "nonsense," the opinion we recently advanced with regard to the loss by evaporation of sugar and starch from hay when exposed to the direct rays of the sun. This is done "notwithstanding the assent of numerous professors to the theory." In other words, the editor of the paper alluded to sets up his individual opinion, unaided by any research, whatever, against the united opinions of men who have demonstrated the facts which they present by laws as sure and certain in their action as is the fact that night follows day. We know of no case where the saying that "none are so ignorant as those that won't learn," will apply better than to the one in hand.

That paper, to sustain its position, calls attention to the acknowledged value of the dried up grass on uplands, which continues nourishing until the rains come. The case is not at all in point, for the reason that in such grass the sugar and starch has passed into the seed, in which the chief nourishment is then found. The cattle are so well aware of this fact that they will lick up the seed which has been scattered upon the ground by the winds, for the nourishment which the stalks alone fail to give. The sun has no fermenting power over the juices of a healthy, living plant.

The editor brings a correspondent of "scientific education" to assist him in his position, who asks "how long a time is required for the nutritive properties of fresh hay [we suppose he means grass] to be decomposed." We cannot state the precise time required in the case of grass; but in some kinds of vegetation, wild cherry leaves, for instance, an hour or two is sufficient to render that which was harmless and nourishing while attached to the tree, a deadly poison to the beast which may eat of it in large quantity—prussic acid is formed in that time, where not a particle existed before. In the case of grass, chemical change is less rapid, but still sufficiently so to produce a marked deterioration in a few hours, where it is freely exposed to the direct rays of a hot, drying sun.

Our neighbor also insists that grape sugar may be economically made from the grape, and that viniculturists will "find it greatly to their account to manufacture syrups and sugar from their grapes."

The *Agriculturist* is again leading his readers astray, a fact which they will ascertain, to their cost, if they follow his advice. We once more repeat that grape sugar cannot be made to advantage from the grape itself, although a syrup can be so made which is especially valuable in the manufacture of champagne. But our neighbor would not like to encourage such a business. Grape growers will make more money by converting the products of the vine into eggs and pork, than to look for returns for such products in table syrup or sugar.

By drying the grape, either on the vine or on hurdles, and then expressing the juice, a rich, sweet fluid can be obtained, which might be boiled down to a syrupy consistency, and from that a very indifferent and uncrystallizable brown sugar might be produced; but it would be found a very poor substitute for the syrup or sugar produced from cane or corn. If your grapes are unfit for the table, and you do not wish to sell them to the wine manufacturer, our advice is either to pull up the vines, or feed their fruit to the chickens and hogs.

NORWAY OATS.—We have received a fine sample of Norway oats, raised upon the farm of Mr. L. G. Houde, of Oakland, by whom we are assured that 277 sacks of the same sort were raised on 12 acres—a pretty good yield for a dry season. The oats were threshed out last Saturday.

THE DAIRY.

Choosing Dairy Cows.

It is often the case in an extensive dairy that one or more cows deteriorate the quality of the entire product, especially of butter. Every cow, the character of whose milk is not definitely known, before admission to a dairy, should be carefully tested by a separate milking, and a separate churning of the cream. In this way good cows or ordinary milkers are found out. It will pay to go to this trouble, even in the smallest dairy. Some cows are valuable for cheese, when they are far below the average grade for butter; and by the test here proposed the dairyman will know what to do with each individual of his herd.

A man should know what cows he has so as to know what animals to put off and what to keep till quite old, for an old cow pays well even at 15. Hence a dairy of good cows may be kept a long time. Dispense with the poorest, and especially the very poorest, if there are any such, even if they give largely of milk.

As a general rule, Jersey infusion (from the male) is the best. This, even in a cow whose milk is rich in casein, and less so in the qualities of butter, will work well and secure a good progeny for the cheese as well as the butter dairy. But the better way is to put the best to the best—pure Jersey blood to our best butter-makers, and the stock will scarcely fail of being satisfactory, all of it. In this way, a dairy can be improved in a few years with comparatively little expense, and last a man many years, and be of great service, paying in the worst of times. Such a dairy will establish a reputation, and more will be realized for its product, even if only a good and not a very superior or fancy cattle.

As to the cause why some cows give poorer milk than others, and of such a nature as not to make a good butter; or such as to hurt it by affecting its color, making it less solid and liable to taint but little or nothing is known.

What is a Good Cow?

A writer in a recent number of the *Galaxy* gives the following general hints regarding the selection of a good cow for milk producing.

"First. Health, good constitution, or digestive apparatus, for which we require a capacious belly.

Second. That the largest possible development of the animal shall be behind, indeed the udder and parts adjacent. A good cow is likely to be wedge shaped, of which the head is the smallest end. Big heads, or horns, or shoulders, are not desired, because they have to be nourished by the food. But these are indispensable; a large bag, and hindquarters to support and minister to it. What do our milkmen look for in selecting milk-giving cows? The first appearance, to a judge, will convey an impression as to the health or situation of the cow. He will ask, also a bony frame, one that does not steal the fat from the milk; and he will feel the skin, to find it flexible and covered with close, softish hair; he will ask for good lung room, a capacious belly, a wide rump, and well developed bag, covered with hair. Extending from this bag forward, he will be desirous to see prominent the two great veins which lose themselves in the belly; and on the back of the udder he will look for many, well-defined branching veins. Then comes Guenon's "milk-mirror," which is a broad strip of hair running up from the udder to the vulva, which is considered the one thing needful; but which has not, in this country, been found an infallible test, though it is a good one. If, in addition, the cow is gentle, good tempered, you are almost sure of a milk maker.

To MAKE COWS GIVE MILK.—The agricultural editor of the *Beekeepers' Journal* vouches for the following, handed him by a friend: If you desire to get a large yield of milk, give your cow three times a day, water slightly warm, slightly salted, in which bran has been stirred at the rate of one quart to two gallons of water. You will gain 25 per cent. immediately under the effects of it, and she will become so attached to the diet as to refuse to drink clear water, unless very thirsty, but this mass she will drink almost at any time and ask for more. The amount of this drink is an ordinary water-pail at each time, morning, noon and night. Your animal will then do her best at discounting the lacteal.

Dairy Farming in California.

The last report of the California State Board of Agriculture truthfully says:—Dairy farming, carefully and properly conducted, has always been one of the most profitable of the agricultural industries in all portions of the United States, and in no State has it paid better than in California. Among our most prosperous and wealthy farmers are those who in one way and another have made a specialty of dairy farming. The people of no other State have paid so dearly for their milk, butter and cheese as those of California. As prices have rated heretofore, it costs an ordinary family more to pay their milk, butter and cheese bills than to pay for all the flour, potatoes, beans, onions, and other strictly home-produced agricultural necessities they consume, and yet we are safe in the assertion that there is not over one farmer in the State that makes a practice of producing butter and cheese for sale to one hundred almost exclusively engaged in raising wheat and barley for the markets. While we are large exporters of wheat and barley we still import annually, over \$1,000,000 worth of butter and cheese. (This amount is overestimated, probably by one quarter; but it ought to be reduced to 0.) Such are the inconsistencies of the California system of agriculture. We would most earnestly recommend our farmers to keep more cows, hogs and sheep on their farms, and cultivate less acres to grain. We are satisfied that such a change in the practices of the agriculturists generally would result in greater pecuniary gains, and at the same time increase rather than decrease the fertility and productivity of the soil.

Horn Ail.

Cows are frequently sick, having cold horns and ears, and eat very sparingly of food. The diseases producing this effect are mostly all called hollow horn, and with many farmers, the remedy is boring holes in the horns, which is of doubtful utility. Warm applications bound around the horns and head will be much better than boring the horns, or sawing them off.

With cows thus affected, gentle treatment is decidedly the best, and the painful process of boring the cow's horns does more harm than good. Take strong vinegar and turpentine, each one gill; heat them together, add a half gill of salt and black pepper, and rub the cow's head well around the roots of the horns as hot as it can be borne with the hand. Then bind the horns round with strips of woolen cloth. For sick cows, give a bran mash, in which put a tablespoonful of powder, night and morning. The ingredient of the powder is two parts gunpowder, one ditto sulphur, one ditto alum.—*Journal of the Farm.*

SUCCESS IN BUTTER MAKING.—Mr. O. S. Bliss, an experienced dairyman of Vermont, sums up success in butter making as depending on three fundamental rules:

1. An abundance of good rich food at all seasons of the year, with shelter and fodder in inclement weather in summer as well as winter.

2. Good healthy cows, and gentle, even to tender treatment of them.

3. A proper room, and appliances for setting the milk, by which it may at first be cooled by the use of water, and afterward gradually warmed, simply by surface exposure, the temperature of the rooms at all seasons being kept as high as 60° above rather than below. It is claimed that better butter and more of it can be made by thus treating the milk, while the keeping qualities of the butter are improved.

COLORING BUTTER AND CHEESE.—Annetto as a coloring matter for cheese seems to be coming into disrepute at the large factories. The demand for white and uncolored cheese seems to be steadily increasing. Some of the Herkimer "fancy factories" have been making this kind all the season, and the sales have been at the highest rates.

HOW MUCH SALT IN BUTTER.—The amount of salt in butter varies from none at all, as the English prefer it, to two ounces to the pound. Such is the difference in tastes. That which is generally most agreeable, has one ounce to the pound, worked in at the close of the first working. Of course a small portion of the salt is worked out—more or less according to the amount of buttermilk left in the butter, which varies with the way in which the butter comes—soft or hard, granular or waxy, at the second or final working.

POMOLOGICAL.

When to Gather Apples.

Last winter there was an unusual loss of apples from rot, at the East. So great and so universal was this trouble that the matter was brought up at a meeting of the Farmer's Club in New York. Some one there asked the reason why the apples were so generally rotting, at that season of the year. The Savans were at a loss for reply, and a correspondent (F. G.) of the *Country Gentleman* subsequently answered the question as follows: Did they not know that the season was earlier than usual, say by three weeks, and that fruit, instead of being picked when ripe, was permitted to hang till the usual time, thus giving a chance for the sun (which was then still hot) to scorch it, as it will do fruit that is disconnected from the bough lying on the ground, for the connection with the tree when fruit is fully ripe, can necessarily have no influence, the fruit being dead to the tree and to be cast off? Had fruit been gathered three or four weeks sooner than it has, been there would have been little complaint about the rot. The case is exemplified.

It seems people will never learn to gather their fruit when ripe, irrespective of the time. Seasons will vary; we must be governed by that. The past season was one of unprecedented heat and mild weather; there was a constant advance, day and night, and early in the season of fruit. We suffer the consequences. Winter fruit when gathered was fit to use at once; this is unprecedented. It should have been gathered some three or four weeks sooner, and then it would not have been fit to use; then put away in the shade, that is, in barrels in out houses or in cellars—the first being preferred generally—and no sun would have affected it, and it would have been less subject to the changes of the weather. In this way we have fruit as usual that does not rot, though all around us are complaining.

If the above correspondent is correct, and we think he is, the matter is certainly one of much interest to Californians, for we here have uniformly dry weather and a hot sun while apples are ripening; and may it not be that the great trouble with them rotting in this State—a trouble far more serious here than at the East or in Oregon—is owing to the fact of their being allowed to remain too long upon the trees?

KEEPING APPLES IN WASHOE.—Fruit of all kinds keeps better here in the land of Washoe than it does over in California; yet we raise no fruit here—it all comes from California. Therefore it is that we have better apples, pears, grapes and all other kinds of fruit later in the season than they do on the other side of the mountains. Pears, too, will hold out in excellent condition for some months longer, and as to apples, they always last here till new ones come in next season, so that a person can eat old and new apples at the same time if he chooses. The pure air of this high and dry locality is doubtless the reason why fruit keeps so much better here than in California.—*Gold Hill News.*

Keeping Apples.

Having just read an account of a writer's keeping apples a long time by wrapping them in paper, and another article in which was stated that the keeping in a sound condition was greatly prolonged by keeping them from the air, I will give my testimony to substantiate the truth of the above assertions. I have eaten apples in August in a perfectly sound condition, that were wrapped in light paper the October previous. The Fourth of July has been frequently celebrated by partaking from a loaded dish of apples, as well as from a pitcher of "ice-cool lemonade." The former were not wrapped in the paper until near the close of March. I think, by selecting the best of fruit now, and carefully enveloping each specimen separately in paper so that the air cannot pass through, the time of keeping in a sound and eatable condition can be greatly prolonged. After covering each apple with paper, I would select a tight wooden box and cover it on the inside, or outside, with paper either before, or after putting in the fruit, as the case may be. Those persons who are desirous of preserving a small

quantity of apples will be amply repaid for their trouble by trying the above experiment. The fruit should not be disturbed after packing until the box is opened at the time the fruit is to be eaten.—*Exchange.*

Quince Culture.

The quince is among our most valuable fruits, and yet it is one greatly neglected. A few trees will produce all that a family may require, and always commands a good price at market, and it is of that hardy nature, ripening at a season of the year when they can be shipped, with our present facilities, to any part of the country, or even to the West Indies or Europe. In the Eastern markets, and in the markets of large cities generally, they always bear a good price. The uses and value of the quince are too well understood to require anything from us on these points. We propose merely to speak of the method of cultivation.

The quince, like all other fruits, requires care and cultivation to be productive of good, well-developed fruit. The most common practice is, to plant the tree in some out of the way place, at the back of the garden or field, and leave them to contend with the grass and weeds, and the sneakers are allowed to shoot up and multiply around the stem until the tree becomes barren and worthless.

The quince thrives best on a deep, mellow, rather moist soil, and requires manuring and cultivating as much as the apple or pear. It is easily propagated by seeds, cuttings or layers. If by cuttings, the pieces should be about twelve inches long, of sound matured wood; pieces with a portion of the wood two years old are most sure to grow. These should be planted in a moist, mellow, partially shaded situation, and should be set in the fall, or as early in the spring as possible.

When two or three years old they will do to set in the orchard. Transplant the same as apple trees, digging a hole two or three feet in diameter, and filling it up with rich soil. At the time of transplanting, the branches should be well headed back, cutting off at least three-quarters the growth of the last season, and entirely removing all interfering shoots, so as to leave an open, well-balanced head. The ground should always be kept clean, and all shoots from the bottom kept off, removing them as they appear, close to the stem. A little care for a year or two will destroy all tendency to throw up shoots in future. Good cultivation and slight annual manuring in the early spring, the manure well packed in about the roots, will insure abundant crops of fair, large fruit, unless cut off by spring frosts.

There are several varieties of the quince, but the best for cultivation for the fruit is the common or orange variety.—*Rural World.*

CALIFORNIA BIRDS.—In California there are 18 or 20 native species of birds, more or less noted as songsters, and some of the species have many local varieties. The erroneous notion that the State was meagre in bird life, and especially singing birds, arose from the fact that the early routes of travel lay chiefly over nearly treeless plains, where few birds remain in the long dry season.

GIRLS IN THE KITCHEN.—At a public meeting held in London recently, social questions being under discussion, a gentleman stated that in one parish in England there "was not one girl in seventeen who was able to boil a potato." Another gentleman declared that the indifference and negligence of woman to household affairs were destroying the stronghold of family life, and was one of the most outward and visible signs of the deterioration of the English nation.

AN EDITRESS.—The talented editress of "Harpers Bazar" is a most charming and interesting lady—a native of New England, a hard student and an accomplished scholar. She receives a salary of \$4,000 per annum, besides which she is in the receipt of a handsome income from her book publications, and from rents of several houses which she owns in New York city. She is unmarried and rejoices in the name of Booth.

A LADY WINS A UNIVERSITY PRIZE.—A lady student lately carried off the chemical prize at the University of Edinburgh. She was the highest of 200 candidates. Having been declared ineligible to receive the prize after its proper award, on account of her sex, Sir Titus Salt sent £100, but she declined to accept it.

USEFUL INFORMATION.

Electricity in the Human Body.

Mr. C. Varley the well known English electrician in speaking of the supposed production of electricity by the living human body, says the sparks produced by combing the hair, by drawing off silk stockings, or by rubbing the feet on the carpet, are illustrations of frictional electricity, which in no way depend on vitality, but are due solely to the proper conditions in the substances rubbed together and the atmosphere. He then comments on another form of supposed bodily electrification, which has led many people to suppose that the brain was an electrical battery, sending electricity through the nerves to contract the muscles, and which may be produced as follows: The terminals of a very sensitive galvanometer are connected each with a separate basin of water. If the hands be then placed one in each basin, on compressing one hand, violently, a positive current is almost always found to flow from that hand, through the galvanometer, to the other hand which is not compressed. By dipping one hand in water, slightly acidulated with nitric acid and the other in a solution of ammonia, and then washing both in water, and compressing either hand, produced a sensible current. Placing both hands in water and dropping a little nitric acid on one, a current is instantly generated without muscular exertion.

These and other similar experiments have lead Mr. Varley to the conclusion that no electricity exists either in or upon the body—either as a source of motive power, or otherwise. The phenomena presented he considers due to the different chemical conditions in which the muscles or their parts are placed. In the case of muscular compression, the action was induced by thus forcing perspiration from the pores.

Science and Patience.

Most people labor for the day or year, or at the most for a life time—having no thought beyond their own comfort and convenience, and the accumulation of sufficient means to render the family surviving them comfortable, according to their sphere. How different with the statesman or man of science. The former looks forward to the needs of the future and distant ages for the basis on which to found his action; working out his deep and intricate problems of political economy with a patience and forecast of which the mere man of to-day can form no adequate conception.

But how infinitely more distant are the expected results of the labors of some men of science. Take the astronomer for instance, and see what he is doing with his telescope.

One of the largest telescopes in the world is owned by the Chicago University. The distinct work of this instrument is to make, in connection with nine chief observatories of Europe and America, an entirely new catalogue of two hundred and fifty thousand stars, determining the exact position of each particular star, so that the astronomers of some far distant age, many thousands of years to come, perhaps, may by again ascertaining their positions, be able to determine therefrom their various motions, and so authoritatively declare in what direction they have proceeded through the illuminated voids. At this moment men are slowly and patiently performing this sublime work, and furnishing those far-off astronomers the data upon which to base their calculations respecting that mighty problem, the direct motion of the sun through space.

A Vegetable Wool.

The name of vegetable wool is applied to a fibrous material obtained from the leaves of the fir, a manufactory for this purpose having been established near Breslau, in Silesia. The species of pine thus operated upon is the *pinus sylvestris*, or wild pine, and it would seem that every member of the pine tribe might be turned to similar account. The leaves of these trees on examination will be found to be made up of a fibrous material held together by a resinous substance. The latter may be dissolved out by means of alkalies, leaving the woolly matter behind. Coverlets, blankets, and other articles made of vegetable wool are in use in Austria, and especially in the public institutions of Vienna. The material is warm, durable, and in all respects agreeable; moreover, it possesses the excellent quality of preserving a certain balsamic and decidedly wholesome smell, which nevertheless is so inimical to insects that they never harbor in it, as they do in almost all the ordinary descriptions of the bed material. The resinous matter holding the woolly fibres together—and which is eliminated or dissolved out by the alkalies—is also turned to account, medicinal baths being made with it as a basis, and which are found to be useful in various chronic diseases.

NOVEL MODE OF SAVING CANDLES.—The American *Artisan* says: A recent traveler in Mexico was much astonished at seeing the men who carry the ore come out of the mine each with one eye shut. The foreman, seeing his surprise, explained the matter. He said the candles belonging to the *tarateros* (who drill and blast), are so cheaply made that they do not give sufficient light in the drifts, where it is consequently quite dark, but where, nevertheless, the *tarateros* see well enough not to run their heads against the rocks. But on emerging into daylight they would be blinded did they not take precautionary measures. For this reason, as soon as they approach the mouth of the shaft, at the point where they catch the first glimpse of light, they drop the eyelid of one eye, and keep this down while discharging their ore, and until they have redescended the shaft. When they are again in the dark, they open the eye kept hitherto in reserve, and at once they see everything distinctly; while the other eye previously open and blinded somewhat by the daylight perceives nothing at all.

HOW SNAKES RUN.—Snakes have scales on their under surface which they can slightly raise. These serve to take hold upon the ground or whatever surface they crawl over. Moreover, their progress is made by means of lateral motion or by wriggling, thus bending the body rapidly and instantly straightening it, holding on to the ground meantime by the scales they make rapid progress. If a snake be watched, he will be seen to hold on by the scales near the head and draw up the body into lateral curves; then holding on to the ground by the scales near the tail and straightening the curves the head is pushed forward. As this process is generally too rapidly performed to be distinctly recognized by the observer, the snake's progress seems a mystery; but where one has an opportunity to observe the snake when he moves very slowly, the whole process becomes plain.

MECHANICS.—The day has been when to be called a mechanic was to be called a second-class man—was to occupy a lower seat at the feast—and scarcely any but poor men's children were apprenticed to learn mechanical pursuits; and how often have we heard the expression uttered by way of censure and reproach "Oh! he is only a mechanic!" and to follow a mechanical pursuit for a livelihood was considered derogatory to refined society. How different now to what it was then. Then men's worth and merits were tested by the length of their purse. These measures have had their day and gone. The cry now is "for mechanical muscle and brain" all over the country. Ingenious mechanism is a loadstone that unerringly attracts to greatness, glory and renown.

The range of human knowledge has increased so enormously, that no brain can grapple with it; and the man who would know one thing well, must have the courage to be ignorant of a thousand other things, attracting or inviting.

PROGRESS.—Since the introduction of railroads in India, the wealthy Hindoos go on their religious pilgrimages in cushioned cars, over ground which their ancestors traveled on foot, with peas in their shoes.

GOOD HEALTH.

Cundurango—The New Cancer Cure.

A plant called the cundurango has been discovered in Ecuador, South America, which is said to be a specific cure for cancer. No discovery in the medical world could be received with greater rejoicing—a cure for consumption, perhaps, excepted—than the new cancer remedy; for while cancers are less frequently met with than consumption, they present a certain, lingering death in its most awful form, and they are, moreover, to a greater or less extent hereditary.

Its Discovery.

The history of the discovery of the wonderful qualities of the plant is, as usual with specifics in general, curious enough. It is said that a short time since the ignorant wife of an Indian laborer, finding her husband suffering from what was there called cancer, and incurable, thought it best to put him out of misery by giving him the seeds of the cundurango, (which are really poisonous), but not finding the plant in seed, gave him a decoction of it, but instead of killing him it cured the disease, and rewarded at once the benevolent intentions of the wife and benefitted mankind.

Its Introduction into Peru.

From this circumstance, we are told, attention was first called to this wonderful specific, and now the doctors generally throughout Peru are loud in its praises, though it is claimed to have been tried in some localities without producing any remarkable effects in the disease for which it is offered as a specific.

Its Introduction into the U. S. States.

Some three months ago the State Department at Washington received a few pounds of this plant from the Government of Ecuador, which remained unnoticed until Dr. Bliss, of Washington City, began to use it in his practice, and with such satisfactory results that he has issued a circular in which he details his experience.

Remarkable Instance of Success.

He says that in the case of Mrs. Matthews, Vice-President Colfax's mother, who was afflicted with cancer of the breast, far advanced in its course, with secondary cancerous deposits, the constitutional and local symptoms as well as the typical symptoms of blood-poisoning yielded and finally disappeared under a treatment of twenty-six days. In other cases presenting the various forms of cancer, a rapid progress was made toward recovery by the administration of the cundurango. Dr. Bliss says that from the experiments which he has made with the remedy and the reliable information received from other members of the profession who have thoroughly tested its virtues, he is convinced that it is the most powerful alterative ever in the hands of the profession, and that it possesses a specific influence over the poison of cancer. He considers the cundurango as reliable a specific in cancer, scrofula and other blood diseases, as cinchona and its alkaloids have proved to be in zymotic diseases. This positive testimony from Dr. Bliss will be hailed with delight by the thousands who are suffering with cancer.

The Vice-President, Mr. Colfax, has written a letter, which has been published, fully corroborating the statements of Dr. Bliss, with regard to the results of its use in the case of his mother, Mrs. Matthews.

How it Acts.

In the above mentioned letter Mr. Colfax writes: "How it cures or effects cancer I cannot imagine. I know how incredulous many doctors are about it, and I would be, too, if I had not seen its results. It seems to separate from the blood whatever it is that causes cancer, and I don't know what that is any more than I know why Peruvian bark cures ague. You can tell your friends, however, when they obtain it, they will notice on the fourth day an improvement, and by the ninth day they will see themselves that the cancer is going away—that is, if it acts with them as with cases I have seen."

Mode of Administering It.

The mode of administering the plant is very simple, being merely steeped in boiling water, and the infusion taken internally.

The Supply Exhausted—An Agent Gone to Procure More.

The results of the use of this wonderful specific having been so satisfactory, the small supply originally received was soon exhausted, and as Mr. Colfax says, in another portion of the above letter, I have most piteous appeals for it from friends,

offering hundreds for it if it will only stop the growth of the terrible disease; but I have not an iota, and I guess all in the United States is now used up.

Under these circumstances, Dr. Keene, the partner of Dr. Bliss was dispatched to Peru, via Panama, to examine farther into its use in that country and to obtain a supply for this country.

The Difficulties in the Way.

Letters have been received from the Doctor in which he states that he found it more difficult to obtain than was expected. The roads to the Laja district are rough and unfrequented, the streams are swollen and dangerous to cross, and the Indians are disposed to throw every obstacle in the way of foreigners, of whom they are deeply jealous and suspicious. However, when he wrote he was on the point of starting for the interior, and was confident of procuring a supply in season for it to reach New York early in August.

All Europe After It.

Dr. Keene found that orders for cundurango had been received at Guayaquil from persons in England, France, Italy and other countries, to the Governments of which the Government of Ecuador had furnished samples. None of these orders had been filled.

The Habitat of the Plant.

This plant is said to grow in the most inaccessible altitudes of Ecuador, in localities where no beasts of burden can be taken; hence it has to be collected by Indians and packed upon their backs down the mountains to a point which animals can reach, where it will be packed on mules and so transported to the sea coast.

When the announcement of the wonderful virtues of this plant were first made known, it was supposed to be some experiment of quackery; but experience in high quarters appears now to have changed the current of opinion. Whatever may be the virtues of this plant, certain it is, that nothing in the history of medicine has ever before taken such a sudden and wonderful hold upon the minds of men. It is also attracting quite as much attention in Europe as in this country.

An Early Supply Expected.

The latest letters from Dr. Bliss seem to warrant the conclusion that he will be able to land a good supply in New York by the 15th of the present month—August.

Another Agent Sent Out.

We may add that as soon as Dr. Bliss learned the difficulties which his partner would have to encounter, and in view of the importance of the mission, he promptly arranged with Ex-Governor L. L. Gibbs, of Idaho, who left New York some three weeks since for Ecuador, to render every assistance which Dr. Keene might need in his undertaking. We shall watch with interest for further developments in this matter, and report progress, as fast as developed.

Iced Water.

During the hot season the excessive use of iced water is one of the most prolific sources of disease and sudden death. In very hot weather, when water is rendered extremely cold by the use of ice in the cooler, no person should drink it in that condition, but should pour in, or draw from the hydrant, as much water of the ordinary temperature as will modify the iced water to about an October temperature. Then he may drink without damage.

Nothing is worse for the teeth than extremely cold water; and many a man has acquired dyspepsia by its bad effect upon the stomach. Not a few have suffered from congestions which were dangerous or deadly. We remember a boy, smart, black-eyed, and handsome, who was connected with our office. He was just old enough to be wise above that which is written. Being one day remonstrated with for drinking two or three glasses of water as cold as ice could make it, he replied tartly, "Water is never too cold for me; I never feel the slightest injury from its use." The weather was extremely hot, and if ever cold water could be used at any time, that, of all others, when the system was overheated, was not the time to use it so copiously. The next day he was not in the office, and the following day he did not come. The third day about noon he made his appearance, and looked as if he had had chills and fever for three months. He drank no more iced water that summer, and probably got a lesson which will last him his lifetime. It is a wonder it did not kill him. A word to the wise is sufficient. *Herald of Health.*



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SAN FRANCISCO:

Saturday, August 12, 1871.

Our Weekly Crop.

We find a fast trotter at the entrance of our farm to-day, which, after stopping a moment to count the cost of raising wheat, we hastily mount, and pay a friendly visit to the Japanese Commission, and examine the interesting Exhibition which these people propose to make at the State Fair. Then, after a brief look into the Scientific and Mechanical Library, and a hasty perusal of our correspondence, we find ourselves at the Santa Clara Farmers' Club, where we hear some interesting discussions on the methods of tillage practiced in that valley, on the policy of deep or shallow plowing, etc. Here we also find a novel Feed Bucket, near by a Chicory Factory, and hear of an Important Railroad Sale, and the Reclamation of Marsh Lands, and take a general Survey of the Agricultural Progress of the week.

On our way back we spend a few moments in The Dairy, learn how to select stock for the same, examine our supply of Apples and Quinces, and ascertain how we may best preserve them from decay. We next pick up some interesting items of Useful Information, visit the doctor and learn all about Cundurango—the famous Cancer Specific.

We return in season to witness the Opening of the Mechanics' Exhibition, and consider the extensive Fruit Shipment from Sacramento, the Arrangement of Stalls at the State Fair, and the exhibition of Small Stock at the Fairs generally.

Editorial Notes Eastward—concluded, are found by the side of a beautiful Snow Plant, which we have transferred to a conspicuous place upon our farm.

After admiring this interesting product of California, we visit the Home Circle which we find convulsed with laughter over a funny story about a Hunt for a Hen's Nest. Order being restored, we consider other matters of graver social interest, in which the Young Folks' engage. We learn all about Economizing our Currants, get a few Hints, and after moralizing a little turn to the consideration of the still more weighty subjects of our Agricultural Colleges, then take a glass of wine, read the Market Reports, and retire.

THE EFFECTS OF DRY SEASONS ON THE CHARACTER OF WHEAT.—The result of the present harvest seems to be demonstrating a very interesting fact, which is briefly alluded to in our report of the Santa Clara Farmers' Club, viz:—That in dry seasons, the poorer soil yields better grain, in proportion, than soil which is richer. It seems, from the reports that have reached us, that the farmers, generally, have been astonished at the unusual quantity of grain from unpromising fields. The reason assigned is that the rapid growth of straw in the better land exhausts the moisture in the soil, before the heads fill out, and hence a light shrivelled grain; while the upland, not so good, has produced less straw; and thus retained a sufficiency of its moisture to mature plump and healthy seed.

Opening of the Institute Fair.

The eighth Fair of the Mechanics' Institute of this city was inaugurated on Tuesday with appropriate ceremonies, and in the presence of a large assemblage of people.

The proceedings were opened by some well timed and exceedingly appropriate remarks by Mr. A. S. Hallidie, the President of the Institute. The opening address was pronounced by Hon. Milton S. Latham, and was a production in every way worthy of that distinguished citizen and orator. The exercises were charmed and enlivened by vocal music from a delegation of some 300 young ladies from the Denman school, accompanied by dulcet notes from Schmidt & Schlott's band, and rendered impressive by an eloquent and most appropriate invocation from Rev. John Hemphill.

The area of the Pavilion has been enlarged since the last exhibition by the addition of about 20,000 square feet on the ground floor—making, as it now stands, a total of 100,000 feet. The decorations are similar in character to those employed two years ago; but arranged in greater profusion and with more taste.

The present exhibition, though as yet but imperfectly presented, by reason of the tardiness of exhibitors, already shows a marked degree of progress in the industries of the Pacific coast. It partakes much more of an International character than any which preceded it, and is eminently suggestive of the new and important features in commerce which the settlement of the Pacific coast is so surely developing in our relations to the Orient. The Australian colonies are well represented, and so are China and Japan—particularly the latter. Mexico also puts in an appearance.

The Bay District Horticultural Society makes its first exhibit this year in connection with the Institute, and occupies the extensive addition which has been made to the south wing. This addition, which has not been floored over, and is roofed with canvass only, has been laid out as a charming garden, with walks, flower-beds, statuary, fountains and arbors. The display includes a wide and most interesting variety of plants, shrubs and trees, of tropical, semi-tropical and temperate climates—such a collection as could scarce anywhere else in the world be found outside of California. This department, though not yet quite ready, exhibits a high degree of taste, a large amount of labor, and cannot fail to prove one of the most interesting attractions of the fair.

The north wing of the building, which has been greatly enlarged, is, as on previous occasions, devoted to agriculture and machinery. Fred. Brown, formerly of the Central Pacific Railroad, is chief engineer in this department, with Mr. D. W. Macey as assistant.

Our Oriental neighbors, who have contributed so generously and added so much to the interest of the exhibition, have been allotted ample space, specially prepared in the northern addition to the Pavilion. The presence in this city of the chief of the Agricultural Department of Japan, a high dignitary at home, and an accomplished citizen of the Orient, accompanied by his suite, will add much to the interest and profit of this portion of the exhibition, and is rendering important assistance in the more perfect arrangement thereof. The Institute and the public is largely indebted to Mr. Horace D. Dunn in securing this important and instructive addition to the Fair.

The Pavilion is still a busy scene of preparation—many of the exhibitors, to their own loss, and to the annoyance and injustice to the Directors of the Institute, and the public generally, will be actively engaged for the entire balance of the week in preparing and arranging their several stands.

Fruit Shipping from Sacramento.

There is a constantly increasing demand for California fruit through all the States and Territories on the line of the overland railroad all the way from California to Chicago, and even beyond. This demand is building up, at different points on the road in this State, a fruit trade of no mean dimensions. From her central location, in a fine fruit-growing country, Sacramento may be set down as one of the most important of these points. The shipping of fruit east is already getting to be quite an important feature of the commercial business of that city. We took a little pains last week to collect some facts in regard to it and believe they may be of some interest to our readers.

There are now four houses in Sacramento which make buying and selling fruit by the wholesale or shipping it on commission a specialty. These are W. R. Strong; A. H. Cummings & Co.; Gregory & Co., and R. Levy & Co. Since the 20th of July to the 1st of August, the combined average shipment of these houses, on the railroad to points beyond the State line, were a little over eleven and a half tons daily. The varieties of fruit shipped were principally pears, peaches, apples, plums and grapes. The prices received by the producers for these fruits have averaged about as follows: For pears, 2½ cents a pound; for peaches, 2½; for apples, 1½; for plums 3 cents, and for grapes 3 cents. The daily average receipts by the producers who have furnished this fruit has been about \$550.

It is estimated that this trade will continue at about these figures, say ninety days this season. This will give a gross receipt of \$49,500 for fruits shipped out of the State, from Sacramento alone.

There is also quite a large amount of fruit shipped from Marysville, Lincoln, Auburn and other points on the line of the road. Probably the shipment from the three points named, may equal that from Sacramento. There will also be large quantities shipped from Santa Clara and other points in the counties surrounding the Bay.

The above will serve to give some idea of the importance of the fruit trade of our State.

Cattle Stalls at Agricultural Fairs.

EDS. RURAL PRESS:—As our various Agricultural Societies are now about putting up their grounds for their regular Annual Fairs, I would like to call attention through your columns, to the propriety of a better construction of the horse stalls at those exhibitions. Taking Sacramento as an example: the stalls are built against a wall, so that there is no rear entrance. Consequently all the dung and dirt from the stalls is thrown out in front, making that locality very dirty and unattractive—not to say repulsive. This is an injustice to stock exhibitors, and also to visitors, who, if the stock stalls were pleasantly arranged, should take much more interest in the annual show, and thus encourage a fuller exhibit.

The proper plan of arranging cattle stalls would be to let there be a lane in the rear of all the stalls, through which wagons could pass, and all the feed be there supplied, and rubbish and refuse piled up out of sight of visitors until removed. The washing of animals could also be carried on there so as not to make it sloppy in front where visitors walk. The fronts of the stalls should be sufficiently open to let the animals be fairly examined, and if the feed racks were placed so as to give a side view instead of a rear one, as usual, so much the more satisfactory. A good cleau plank walk should run in front of the stalls, on which visitors, particularly ladies, might walk without soiling their clothes or stepping in the manure heaps and filthy mud that usually abounds there, and which attracts myriads of flies, to the annoyance of the animals, exhibitors and visitors.

This walk would also keep visitors from

being endangered by passing horses or other animals, while being exercised by their owners, or teams of visitors, hay and feed wagons, etc., which now crowd the space in front of the stalls. Where grounds are used by the Agricultural Society, and annually used for Fair purposes, rows of shade trees should be planted along the walks in front of the stalls, thus making them more attractive to guests and exhibitors, and much more comfortable for the animals. These ideas are merely suggestive, and will bear modification or enlargement. They will apply to every Fair ground with which I am acquainted. Local applications will occur to all your readers.

EXHIBITOR.

Small Stock at Fairs.

Last year at the California State Fair we heard repeated complaints by the exhibitors of sheep, swine and other small animals, of the poor accommodations provided for their stock. The pens were indifferently constructed, poorly roofed, affording only half shelter from the sun, and located so as to be interfered with by the movements of horses and other larger animals, some of the owners of which seemed to have little regard for exhibitors of what they seemed to treat as "small fry."

This is all wrong. For the pleasure of the thing, if for no higher reasons, our fairs should be as neighborly and friendly gatherings as our social meetings. By being so conducted they will be productive of a greater amount of good.

A large interest is gaining in improved poultry and small stock, and we bespeak a larger display than usual this season. Hence we have taken pains to call the attention of the managers of our fairs to the want of better accommodations for this portion of our shows, believing they will at once and cheerfully do their best to remedy all deficiencies.

These exhibitors generally are modest men and women, not interested in the horse racing demonstrations, and although not disposed to complain aloud, are nevertheless sensitive as to their rights, and the importance of their worthy position and accomplishments in the field of agricultural industry.

We especially urge that our friends should bring out a fuller variety of exhibits in this line, than formerly, and we will venture the opinion that they will be better provided for by the managers of our State Fair hereafter.

SALE OF BLOODED SHEEP.—The shipments of good sheep to this State is a decided success—if the number of sales made and prices secured are any criterion to judge by. Major Beck has but twelve bucks and twelve ewes left of the Silesian flock received from Mr. Chamberlain, of Red Hook, New York, this spring. The bucks have been sold at one hundred and fifty, and the ewes at one hundred dollars each. Messrs. Beal, Baker & Co. of the Tejon Ranch, Los Angeles county, have just purchased four of these bucks to breed with their flocks of fine Spanish merinos. They had already purchased all the bucks they intended to this season, but seeing these they determined not to let the opportunity to secure them pass.

A MARKET AND PRODUCE EXCHANGE.—At a late meeting of the Santa Clara Farmers' Club, the Board of Managers of that Association was instructed to establish, as soon as possible, a Market Exchange in San José, and to employ a competent person to take charge of the same, for the purpose specified at the close of our report of the proceedings of the Club. We trust this experiment will be carried out, and its results carefully noted and made known. We are inclined to think much good will come out of it for the farmers. If it succeeds well in San José, we presume similar institutions will be established in other of our principal interior cities and in this city. We shall watch with interest, and report progress in this matter.

Editorial Notes Eastward.

Last No.

SAN FRANCISCO, June 21st.

My last notes, dated April 15th, mentioned resting a time in Omaha. I have since completed my journey, stopping briefly at Omaha, Chicago, Washington, Philadelphia, New York; visited my "old home" with joyous heart, and returned refreshed rather than fatigued.

On the Union Pacific R. R.

The trains are equipped with Miller's patent truss platforms and couplings, (recently illustrated in the Press), by means of which the principal danger of the cars, "telescoping into one another," in case of accident, is avoided. The coupling is self-acting, and the buffers so elastic that the cars are always started and stopped in a manner, agreeable to the necks of old R. R. passengers—with a degree of gentleness worthy of a vote of thanks to Gen. Miller for inventing the improvement and the managers of the U. P. for adopting it.

This R. R. Co. also use the Westinghouse atmospheric brake, operated instantly upon every car by the engineer. A cylinder about 10 inches diameter and 30 inches long underneath the center of each car, operates the brakes at each end by the force of compressed air conducted to it from the compressing pump or engine, operated by steam, on the side of the locomotive. Elastic hose with patent couplings conducts the air between the cars to stationary iron pipes connected with the cylinders under the cars.

We found the U. P. R. R. entirely in good running order. It is the longest road in the U. S. owned by one corporation, and its intelligent management seems to be a fortunate one for owners, passengers and the communities established and really accommodated along its route—without extravagance, without niggardness but with reason and fairness throughout.

The completion of the immense iron bridge over the Missouri river at Omaha, now building by the company at an immense outlay, will in future be looked upon as a fitting finishing stroke of one of the grandest of railroad enterprises during the 19th century. It will save much time and annoyance to through passengers, who must now be transported by ferry boat.

The Pacific Pullman Palace Car Co.

Run their superb sleeping coaches between Omaha and Ogden, and from Cheyenne over the Denver Pacific to Denver, Colorado, and from Denver over the Kansas Pacific to St. Louis, Mo. I was ticketed in the Palmyra, a "gentle sleeper" by night and superb saloon by day. We regard the "Pullman" decidedly the most superior cars running, and the best supplied and cared for by this company, under the superintendency of Mr. Bennett, of Omaha. Mr. B. is popularly known by many of our Californians for his special kindnesses to several excursion parties and general civility to Pacific coast passengers.

Chicago, Quincy and Burlington and Missouri River R. R.

On this line from Omaha to Chicago we were favored with one of the best accommodations yet provided for R. R. travelers, i. e., first-rate hotel dining cars—in which one may eat with the utmost leisure and satisfaction. At Burlington we had the pleasure of comfortably eating our dinner over the "Father of Waters" while viewing the city and overlooking the fine scenery along the river above and below.

On this route the road has lately been supplied with iron heavier than that of other roads. A double track spans a greater portion of the way. It is heavily ballasted and its trains run over a level line with great speed and safety. The rolling stock is excellent and provided with the latest improvements including the

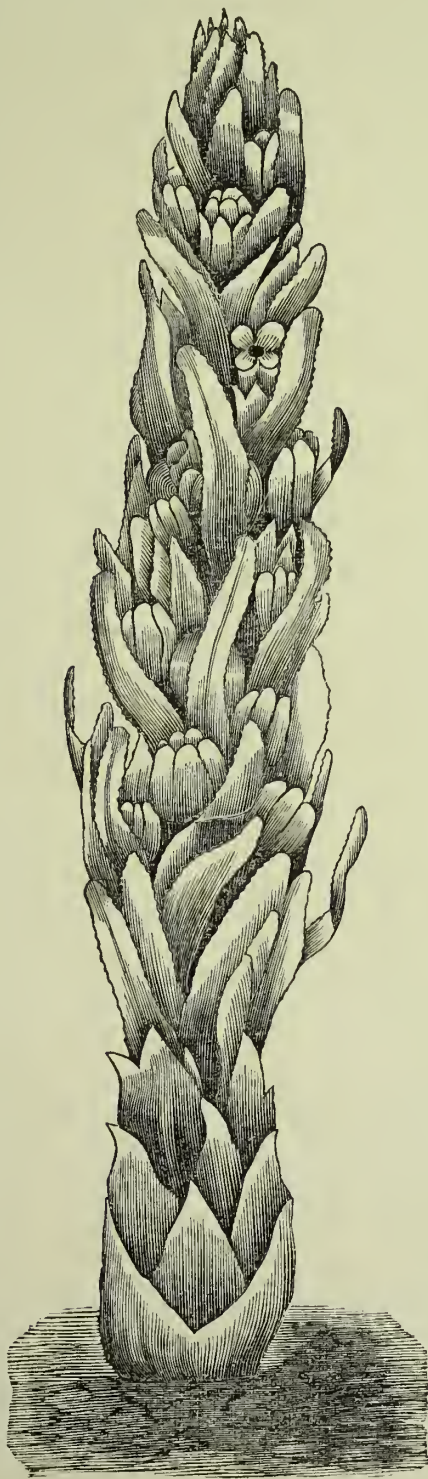
patent platform and atmospheric brake mentioned above. From my own experience and the testimony of others, I believe this the best of the four lines eastward from Omaha. Out of Chicago we took the

Fort Wayne and Pennsylvania Central R. R.

To Pittsburg and Philadelphia, and the N. J. Central to N. Y. The scenery over the Alleghenies, especially in June, was beautiful, and the passage through satisfactory and recommendable in the highest degree. Having been longer in writing than in riding this trip, I will now "switch off" these "notes." D.

The Snow Plant.

Along the western slope of the Sierra



THE CALIFORNIA SNOW PLANT.

Nevada, and close to the line of the snow, there grows a strikingly interesting plant, commonly known as the Snow Plant. It was first discovered by the naturalist connected with Col. Fremont's party, in 1843 and 1844; but first brought to the notice of botanists by Dr. Torrey, in "*Planta Fremontiana*," where its history and true botanical character and position is given together with a plate.

Dr. Torrey described it under the name of *Sarcodes sanguinea*. A new genus of the small sub-order *Monotropae* of the natural family *Ericaceae*. Its specific name aptly refers to its bloody or rosy color. The entire plant being of a succulent, fleshy texture, of from six to eighteen inches in height; growing under pine trees, generally starting up about the time the

snow melts. It is sometimes seen growing up through the thin stratum of snow, and hence the popular name which has been given to it. It depends for moisture upon the melting snow. It resembles asparagus, somewhat in its form of growth, is equally succulent, and we have heard it stated, that when boiled and served up in the manner of that vegetable it is palatable and nourishing. The figure which we herewith present has been drawn and engraved for this paper from a photograph and is very little reduced in size from nature.

It has been found as far north as Lassen's Butte in Northern California, and abounds in the Yosemite valley, where its remarkable appearance attracts the attention of the commonest observer. Travelers crossing the Sierras early in the spring find the plant for sale at the way stations, as a floral curiosity.

It seems to be parasitic, and has not thus far been known in cultivation. We have known a specimen transferred to this city, which, by careful attention, and frequent watering with very cold water, increased some little in height and came into bloom; but soon withered and died.

The flowers are frequently brought to this city, where they are kept in vases of ice water, putting out flowers freely for several weeks.

The Ramie Plant.

We have received from Mr. W. W. Drury, of Sacramento a stalk of ramie, two years from the cutting, grown upon his place, two miles above the city, which measures seven feet and one inch in height. It was grown upon a loose, dry, sandy soil, bordering the river, which is entirely worthless for grain, or vegetables. Mr. D. has but a few plants, but those which he has demonstrates the ease and perfection with which this plant may be grown upon our river bottoms.

The *Haywood Advocate* says that notwithstanding the conflicting accounts about the success of growing the ramie on Messrs. Finch & Meeks' place, San Lorenzo, the plants are still in a healthy and thrifty condition. Although they are set six feet apart, the ground is covered with their growth, some of the plants being five feet in height. These plants were set out last year, and from them were taken the plants which were set out on the hill place, which have not done well owing to mismanagement in planting and cultivation.

Mr. Mintzer who has some sixty or seventy thousand ramie plants growing upon his place near San Bernardino, writes the *Alta*, under date of July 25th, that they were then doing well, many having attained a height of seven feet. He has gone into ramie, because he cannot do much at ordinary farming, on account of the cost of transportation from that distant locality. Mr. S. is also thinking about the cultivation of the beet and melon for sugar, for the same reason. The question of profitably growing the plant, even in as unfavorable a season as the present, is fully at rest. The only question that now remains to be solved, is that of its economical preparation for the market and ready sale. This will be decided, we presume, during the coming winter, after which cultivators will have some reliable data by which to be governed in this matter. Since the above was in type we have understood that there will be a machine in operation at the Mechanics' Fair for preparing the fibre for the market.

A THOUSAND STOLEN SHEEP were recovered recently by Sheriff Morse of Alameda, and the two thieves with them who thought they were safely concealed in the mountains.

THANK YOU.—Some one has sent us a nice box of pears from San José, prepaying the expressage, contrary to all ordinary custom.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

(FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.)

FOR THE WEEK ENDING JULY 25TH.

PARLOR-SKATE.—Chris. Raitz, San Francisco, Cal.
 PLOW.—Montgomery P. Rose, Napa, Cal.
 FURNACE FOR ROASTING ORES.—Stephen F. Ambler, Monitor, Cal.
 DESULPHURIZING AND TREATING ORES.—John W. Bailey, Hamilton, Nev.
 POTATO-DIGGER.—Robert A. Haw, Bucksport, Cal.
 GATE.—Edmund Higgins, Sacramento, Cal.
 ELASTIC TIRE FOR TRACTION-ENGINES.—Oliver Hyde, Oakland, Cal.
 FURNACE FOR ROASTING ORES.—Richard F. Knox and Joseph Osborn, San Francisco, Cal.
 COMPOUND FOR PREVENTING INCRUSTATIONS IN STEAM-BOILERS.—William T. Rickard, New Monitor, Cal.
 MACHINE FOR MAKING BLIND-SLATS.—Paul Schumacher, San Francisco, Cal.
 MACHINE FOR TURNING SPIRAL MOLDINGS.—Edward A. Stockton, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Importation of Blooded Stock.

Col. Peter Saxe of Troy, New York, arrived at Sacramento last week with a large shipment of pure-blood Cotswold sheep and young pure-blood Durham cattle direct from the best flocks and herds of Kentucky. In answer to a letter of inquiry last spring we advised Col. Saxe that such stock were in demand here, and we are satisfied he will find our advice correct. We are glad to welcome and encourage these importations of good blooded animals. They indicate that our stock breeders are alive to their best interests, and that stock raising in this State is beginning to be conducted on proper and paying principles. Instead of countless herds and flocks of inferior quality stock roaming over vast plains, only known to their owners by their brands and only seen by them once or twice a year, we shall hereafter have small collections of good blooded animals, carefully kept at home on the farm, and well cared for and attended. We are just now successfully entering upon the new era of stock breeding in California. We have done enough at good stock raising to prove the adaptation of our State to the business, and that there is no doubt but, when well conducted, it will pay.

Good judgment and careful management are needed, as in all other kinds of business, and with these success may be reckoned on as certain. Whether Col. Saxe proposes to sell all his animals or to enter into the stock business here, we bespeak for him that success which his enterprise and energy deserve. Some of these animals will remain at Sacramento and be on exhibition at the State Fair and some, we understand, will go to Sonoma county.

LOTTERY SHARKS are increasing beyond all precedent. California seems to be regarded as choice subjects for their "experiments," and our State a fine one for "gulls." Its reputation for wholesale lotteries has gone forth, and the tidal wave is returning. Probably \$100,000 has been spent for advertising alone, here, during the year past. In a single week in July over fifteen hundred thousand lottery tickets were printed by one firm. We verily believe that the gift (lottery) schemes have done more to fasten the prevailing dull times on our community than our dry seasons, or any other one cause. The New York gambling (not to say thieving) concern (that "refers" to the Nassau National Bank for its respectability,) will not be called upon to "honor" our draft "on receipt of bill and paper containing first insertion" of advertisement.—No, not for us!



Meditations.

BY FANNIE K. ALLEN.

O Mother Nature, kind thou art
To claim me as thy loving child;
Thy teachings elevate my heart,
Thy influence is sweet and mild.

The lovely earth that we behold
Of Heaven but the faint shadow is;
Echoes from angels' harps of gold
Make nature's symphonies.

Even the smallest flowers that spring
And blossom near the soft green sod,
And the dear little birds that sing,
Lift up my thoughts to God.

When the wild wind that spurts control
Sweeps o'er the meadows green and fair,
Mysterious feelings thrill my soul—
I know the grass is waving there.

With beautiful enchanting grace [will;
The tall blades yield to the wind's sweet
How swift the little wavelets race
O'er the meadow and up the hill!

Of late I watched them hour by hour;
A serious, thoughtful child was I;
I was enthralled by nature's power,
Enraptured by her sweet melody.

My fancy wild and free as they
Dreamed of life's possibilities;
I thought—"I'll grow in grace each day—
Our dear God's grace, how good it is."

"I'll ever living waters draw
From Christ of good and truth the fount;
I'll shape my actions more and more
By the sermon taught on the mount.

"Jesus, may thy beatitudes
Rest on me; may thy love divine
Illuminate all my changing moods
And make me wholly thine."

When nature such pure thoughts imparts
We cannot dwell too much with her;
We'll make her temple in our hearts—
She'll be our soul's sweet comforter.

—Occident.

Finding a Hen's Nest.

I never come upon a nest of eggs, secreted by the hen most conscientiously, and unknown to the most searching housekeeper, without a sense of boyish delight, which would bring down on me reproving looks and grave admonition from all who have an awful sense of the proper dignity of ministers. But I have no doubt soda and acids come together with the very best resolutions. They are determined to restrain themselves and not foam over. Yet the very first drop of water sets them off, and they make bubbles and throw them off in each other's face at a furious rate, in spite of all the efforts at self-government. Now, what is to be done about it? Were we not made so? And are not some people made so as to effervesce easily? Why they were made so is a question that should be addressed to another quarter.

Well, I was saying that the discovery of hidden eggs was always an excitement, and there have been times when the excitement was prolonged and extreme. It chanced in this wise, and in the goodly State of Indiana.

No more neat, careful, exact, and scrupulous housekeeper ever was seen in the Hoosier State than our fair landlady, who had us in special charge during the absence of our proper head and queen, who sought health on the sea-board. An old-fashioned barn there was, huge in the middle, with a variety of sheds, lean-tos, stables and carriage houses, projecting on every side of it, as if the barn had settled a family of little barns all around it. It was a family barn, beloved of hens and boys. For in its roomy interior, and in the passages, bins, nooks, and corners, all sorts of frolics might be carried on; while an occasional "peak" at the cracks would keep them informed when the old man was coming.

But hens, who have a secretive tendency, a modesty of the nest, find their paradise in such a voluminous barn. Here they may lay in silence, and proclaim it in a vociferous cackle, bringing down the whole barn-yard in chorus, and waking echoes in the neighboring hen-yards, and yet the searcher finds nothing!

"That pesky hen! She lays every day, and yet we are none the better for her eggs. I wonder where the creature hides! If

Harvey was half as smart as his father, I know that he could find that nest."

Again and again came the exultant cackle, and again and again we were without custards!

And so, one mellow autumn day, we wandered through the garden, and strolled into the barn. It was not so full but that it had the sense of great space. It was festooned with cobwebs, and had all the tribes of spiders that hide in half lights. We climbed the beams. We jumped down from far up on the hay, and finally after sundry amusements, lay down by the side where the shrunk boards gave us an inspection crack, from which we swept the neighborhood—saw and were unseen. Soon we heard the least possible sound of a foot on the hay. Turning our head we beheld the productive but unprofitable hen stealing toward her secret nest. It was one time to often. We knew as much as she did.

How rapacious are all conquerors! There was the rounded nest, well sunk in a corner, full, brim full of eggs—thirteen, besides one for a nest egg! As oriental kings despoil a captured city, rob its people, pull down their choice architecture, and quite disown its beauty, so we found the nest glowing white as marble, and left it—like hay.

Is there not a providence for hens? Is there not a fate that follows the most obscure and unwatched violence?

We put the eggs safely in our coat-tail pocket, and walked cautiously. It recalled a piece of disreputable carelessness on our father's part, who once sat down on a dozen eggs, and went up as if every egg was a bomb, and every bomb an explosion. But then he was a notoriously absent-minded man. His very example was our safety. And yet we dwelt with some inward mirth, as we walked to the house, on the ludicrous figure which our father cut. Dinner was spread as we came in. Some question came up which diverted our thoughts from the discovery of the nest; indeed, we forgot that we had eggs about us, and drew to the table, and sat down with an alacrity which was only equalled by the spring with which we got up.

"Gracious!"

"Why, what is the matter?"

"Matter enough?"

"Are you sick? Do let—"

I drew my hand from my pocket, streaming with liquid chicken, never to be born, and the disgusting secret was out! That woman was a saint! My pockets were duly cleansed without one cutting word. I can imagine the process, but I never like to dwell upon it. Would you believe it, the same thing happened in a few weeks again? It did, and to the very same person! But never since then—no, never? From that day to this we do not remember ever to have taken an egg from a nest.

1. When I see a man who allows himself to be puffed up and flattered, I know that his time will come when he will sit down on his eggs.

2. When I see men who are robbing right and left, and filling their pockets with unlawful wealth which other men earned, I say, "You will sit down on those eggs yet."

3. When overunning men think that they can outwit all their fellows, and are exulting at the success which their shrewdness has achieved, I say to myself, "Fill your pockets, by and by you will sit down on those eggs."—Henry Ward Beecher.

How Shall We Train Our Children.

Let our children have the advantages of a complete education for their present and future well-being. The better the education the happier, truer and better the life. Sacredly responsible for the dispositions and propensities of children, all who have their care should be faithful. They should inculcate right principles, judiciously instruct in and properly care for them in all that leads to perfecting of character and real happiness. Our children should be encouraged and secured full privilege and opportunity, and as their native talents lead, to prepare themselves for decided usefulness, and wisely exacting what is so essentially true their own and the good of all. Lead them to learn habitual truth and obedience. Keep their hearts and minds clear, have right influences about them, and all due consideration for their health and happiness.

Let us, as women, lend such influence, and only such at all times as will exalt, promote and maintain what is noble, pure and good in life and character, and by our own consistency establish a more sure foundation for the well-being of our sex.

The present reveals not that thorough national soundness which first characterized us as a people and on which our nationali-

ty first rested, next to Supreme care for its safety, and which alone founds and preserves a Republic. Let not our example nor our influence further in the least a tendency to impair the nation's success. Let us prudently guard our own peace to all good in trifles as in things of moment, and be as credibly faithful to our duty as women.

The history of past nations proves that "a man's life consisteth not in the abundance of the things which he possesseth." Therefore may we, as a people, happily maintain the line of principles which led to our being, and alone, next to Divine protection, serves to keep us a prosperous and independent nation, that we may leave to our children and inheritance as noble as that our fore-fathers left us.—Maine Farmer.

Dirty Children.

We have often heard it said that dirt must be healthy, because the smutty little urchins that live in hovels, paddle in the gutter, and roll in the dirt are healthy, while the carefully trained child, sheltered from the sun and kept with immaculate cleanliness, is pale, thin and puny. The children of the rich and poor are thus contrasted, and it is supposed that cleanliness kills the one and dirt invigorates the other.

We fancy that there are two prime reasons for the difference. The paleness and poverty of constitution sometimes exhibited by the children of the rich do not come from the cleanliness of their food and clothing, and the excellence of their bed and home; these are all favorable to the highest order of health. But there are other causes for their paleness and the puny appearance. The parents may have indulged in the use of highly-seasoned food—may have kept bad hours and lived in an atmosphere of nerve-shattering excitement. Perhaps the mother laced tightly; perhaps she was too "stylish" to nurse her own children; and perhaps it were better for the poor things that they could have honest cow's milk than to draw nourishment from a nervous, excitable mother, living in abnormal relations to life in nearly every respect. Hired nurses may be employed who are not interested in making the children's lives happy—only to keep them quiet—and probably use Somebody's Soothing Syrup, the greatest curse ever inflicted upon juvenile humanity by arrant quackery, as it is made up of laudanum and other stupefying drugs which no human being should take.

When a child is old enough to eat, instead of taking a brown crust that is healthful in itself and requires mastication, it has put into its hand sponge cake, which is enough to demoralize the health of a stone breaker. Then the puny little pet, if on very pleasant days he is taken out at all, is be-wagoned and be-parasolled on the shady side of the street, and does not get a good chance at the sun and air. The poor man's child, on the other hand, eats plain food, and is not over-fed. Its parents are hard workers; the father breaking stone or carrying the hod, and the mother helping to eke out support for the six or eight children by taking in washing. Both are sturdy and hardy, and though they sometimes may be foolish enough to drink whisky, they are not able to indulge continuously in dissipation of any sort. Their children have round faces and round limbs with a dimple at the joints, with thick round feet, and thick red lips, and curly hair, and laughing eyes. To be sure, they tumble in the dirt, but the dirt does them no good. They are not haunted every hour by sharp rebukes for getting into the dirt or tearing their clothes. Their clothes are none too clean to begin with, and they wallow, and flounder, and squabble, and rejoice; they live in the sun and air, and in spite of the dirt, their plain food and their roystering life, their exercise, the atmosphere and sunshine—kindly nature's best nurses—keep them hearty and healthy. While the rich have a hard time in raising two half-built human beings, the laborer, who may do drudgery for the garden and stable of the rich man will raise eight or ten square-shouldered and rosy children. The children of the poor should be kept more cleanly, doubtless. Good soft water and soap are no foes to health.

In a country like this, where property is not entailed, the children of the rich are likely to become extravagant, and spend what their fathers or grandfathers earned, and soon go back to the soil. They then touch bottom, are compelled to be industrious, and for a generation or two we have healthy, thriving, earnest people. In Agur's prayer, "Give me neither poverty nor riches," could be answered in respect to all, it would be a great benefit to the rich, and we are satisfied the poor would not complain of it.—Herald of Health.

Young Folks' Column.

The First Pair of Boots.

"O, mother, mayn't I have some boots?" exclaimed little Sumner H., as he bonneted into the log cabin where Mrs. H. sat sewing, trying so hard to make new clothes out of old.

"Do say I may, 'cause Leland Ives has got some, and I'm 'most as old as he is."

"But, my child, I've no money to buy them;" and she sighed, for it was the autumn of 1857, that terrible year for the emigrants.

"Money! money! Dear me, I wish I was made of money. But can't you think of any way you can get some?"

Poor mother, she had thought till she was dizzy-headed.

"Isn't there any way I can earn some?" and the little four-year-old straightened himself up proudly.

"Yes," she said finally. "You may sell all the eggs you can find in the corners of the fences!"

He was off before she could finish the sentence. Three hours afterward he came back flushed with fatigue, but happy! He had found a dozen and carried them to town—a mile across the prairie—and returned with a dime!

"How many of them will it take for a dollar and a half?"

"Fifteen."

"O dear! Well, if the hens don't stop laying, I'll get my boots, though!"

Fifteen times did that little hawkeye boy trudge across the prairie with his dozen of eggs, then he came back, O, how proudly for in his hands were his first pair of boots. He did not wear them for a week, but he carried them wherever he went; he ate with them; he played with them; he showed them to every neighbor; they were in his arms when he said his prayers; they were in his arms when he went to sleep. The first pair of boots! Will anything he may earn in manhood give him so much pure joy?—The Summer Star.

Work, While You are Young.

"It's a shame for your mother to make you stay in the house and study such a day as this," said Ned Lane to his friend George Bond. "My father never notices whether I study or not, and mother says, 'you cannot expect an old head on young shoulders.'"

"My mother," said George, "says that some day I will thank her for compelling me to do what now I don't see the need of. She has often told me about Louis XIV. of France, who was often mortified at his own ignorance, and lamented the foolish indulgence which left his youth without instruction. If reminded that he would not learn, he exclaimed, 'Was there not birch enough in the forest of Fontainebleau?' So, Ned, if you will run away for a half an hour, I will have my examples finished, and then I will come out and have a game of ball."

A BRAVE GIRL.—The Oxford (Me.) Democrat tells us that a plucky girl in Weld, named Dorcas White, was met in the road by a wild-cat, which was being pursued by her brother who had been hunting it with a gun. With presence of mind, and courage amounting to heroism she took her shawl from her shoulders, threw it over the vicious beast, and held him till her brother came up and despatched him.

A LESSON.—Some time ago, a little boy, twelve years old, on his way to Vermont, stopped at a country-tavern, and paid for his lodgings and breakfast by sawing wood instead of asking it as a gift. Fifty years later, the boy passed the same inn as George Peabody, the banker.

A SMART GIRL.—"My daughter! I want you to stop talking; you must wait until you are spoken to." "Ma," answered the bright child, "if every one should wait until they were spoken to, how could any one talk?"

A FEW days ago, a smart little fellow of some seven summers, went up to a fruit stand, and rising up on tip-toe, peered over at the fruit, remarking as he extended a dime, "I think I will buy a few apples for the children."

BOYS.—If one of you loses a ball or a dime you are pretty apt to set about looking for it at once. Now your good temper is certainly more valuable than a marble or a cent.

THE head cook at the Parker House, in Boston, has a yearly salary of \$4,000, and the President of the Harvard University \$3,200 annually.

DOMESTIC ECONOMY.

How to Use Your Currants.

"Daisy Eyebright," in the *Country Gentleman* gives the following directions for the various methods of utilizing this healthful and delicious berry. The suggestions are reliable and seasonable:

CURRENT JELLY.—Gather the currants when fully ripe; wash thoroughly clean from soil; squeeze the juice through a flannel bag, having first poured a teacupful of boiling water upon ten or twelve pounds of fruit. Measure the juice, and to every pint of it add one pound of the best lump sugar. Boil together twenty-five to thirty minutes, skimming off all the froth that rises; (this can go into the vinegar jug, that should sit behind the stove, ready to take in all such things.) When perfectly clear, strain through a jelly strainer or sieve, into cups or tumblers. When it is cold and solid, cut round pieces of white paper, dip them in alcohol and lay over the jelly; then paste stiff brown paper all over the tops of the dishes, and label them, with the date. There is no need of removing the stems for jelly, if the currants are well washed.

[Another correspondent of the same paper says: After washing, put them in the preserving kettle and cook until quite soft, then strain while hot. Measure your juice, and put it back on the fire and before adding the sugar allow it to boil ten minutes, and skim thoroughly.—ED. PRESS.]

CURRENT WINE.—Take fully ripe berries on the stems; put them on the fire, and let them become heated through; then press out the juice through a flannel bag. If a quantity of fruit is to be prepared, wash the clothes wringer thoroughly, and put the bag containing a portion of currants, through its rollers. To every gallon of juice add two quarts of hot water and four pounds of white sugar. Mix all together; put into a jug and tie millinet or lace over the mouth to keep out insects. Set in a warm place to ferment. In a month or six weeks the wine can be corked up. Let it remain in the jug, in the cellar, until April, then pour off the clear liquor, and bottle tightly.

CURRENT VINEGAR.—A good article of vinegar can be made from the mash that is left from jelly and wine. Pour boiling water over it but not too much, let it be quite colored with the juice; then to every gallon of it add one quart of molasses; set in the sun to ferment; and in three months, if not sooner, you will have a delicious vinegar.

SPICED CURRANTS.—These make a relishing accompaniment to roast meats, etc. Take the stems from five pounds of currants; add to them four pounds of brown sugar, three tablespoonsful of ground cinnamon, two tablespoonsful of ground cloves and a pinch of salt; and one pint of vinegar. Boil in a porcelain kettle for one hour; keep in jars, tightly covered.

CURRENT PRESERVES OR JAM.—Take the currants from the stems, and to every pound of them put three-quarters of a pound of white sugar; mash them up with a pestle, and boil for half an hour, skimming well. This is a good substitute for cranberry sauce with poultry.

DRIED CURRANTS.—Take seven pounds of currants, one pound of sugar, and cook till completely broken up; strain through a colander; boil the juice down to a thick syrup; add the currants that were left in the colander; cook as thick as possible without burning; spread on platters to dry in the hot sun, or an oven not too hot to dry slowly; one day is usually enough for one side; cut up in small squares; turn and dry on the other side. It is deliciously flavored and agreeable to the mouth of a fevered patient. Lay a small bit on the tongue and let it dissolve, or dissolve it in cold water for a refreshing drink.

ICED CURRANTS.—Select large, full bunches of currants; dip them in the white of an egg, and then roll in powdered sugar. A very handsome dish for dessert or supper.

CURRENT ICE.—Squeeze out two quarts of currant juice, add to it one pint of cold water and three pounds of white sugar. Put into the freezer and beat into it the whites of three eggs whipped to a stiff froth; freeze the mixture. This makes an elegant dish for dessert, as it freezes in a pink colored foam, which is very delicious.

CURRENT SYRUP.—Take three quarts of currant juice and three pounds of white

sugar; boil for twenty minutes, and bottle while hot, sealing the corks tightly with a wax made of rosin and tallow. This affords a pleasing beverage when mixed with ice water, and is valuable in the sick room.

PRESERVING CURRANTS WHOLE.—To preserve currants whole, wash them, then pick them carefully from the stems; add three-quarters of a pound of sugar to every pound of currants, and boil quarter of an hour; these must be put in air-tight jars, and they make a delightful acid preserve. For currant jam take a pound of sugar to a pound of currants, and boil half an hour.

Keeping Oysters Fresh.

To keep oysters alive and fresh in their shells—Put them in a clean pan, cover them with pure water moderately salted, and changed every day. Keep them in a cool place.—*Etc.*

We are in doubt as to its being necessary that an oyster should be constantly covered with water, to be kept alive and fresh. Some three years ago we spent a couple of weeks on the "South Shore" of Rhode Island, where, by the way, may be found—in limited quantity, however—some of the best oysters in the world. While there, and during the winter months, after the "oyster season" had long passed, we were invited to an oyster supper where the fresh bivalves were served up direct from their shells. Surprised at their delicious freshness, we enquired of our friend how he was able to keep them so fresh and sweet. He informed us that they were taken from the banks at the time of their best condition, and immediately "packed" in a cool, moist cellar, free from frost in winter. At intervals—we have forgotten how frequently—they were sprinkled with water in which Indian meal had been soaked, some of the meal still remaining in the water. A sufficient quantity of this solution was sprinkled over the pile, to allow of its reaching every individual. The bivalves would manifest their appreciation of this pluvial favor by instantly opening their shells, evidently to receive portions of the same within. This fact being made sufficiently evident by the crackling noise produced by the slight movement of the shells working and grating against each other. We were assured by our friend that he was enabled to keep oysters, in this manner, through the entire winter, with as little loss and trouble as so many potatoes

Useful Herbs.

There should be a good collection of useful herbs in every garden, or in some other place adjoining the homestead—such as are needed about the kitchen, in the nursery or in the sick room. A small bed of each kind will supply the requirements of a large family. The following are some of the most desirable:

Balm—a hardy perennial plant, the leaves of which have a lemon-like odor and an agreeable aromatic taste. They are used for flavoring dishes. A solution of them is beneficial in diseases of the lungs. **Basil**—the leaves when bruised have the odor and flavor of cloves, and are used for seasoning. **Caraway**—a hardy perennial plant, valuable for its seeds, which are used in confectionery and also in distillation. **Coriander**—a hardy annual cultivated for its seeds, which are used by confectioners, druggists and distillers. The young leaves are used in soups and salads. **Lavender**—a hardy, shrubby plant, of which there are several varieties. It is sometimes used for seasoning, but is more esteemed for making the distilled water which bears its name. **Common majoram**—a shrubby perennial plant, which may be raised from seeds, but is generally propagated by dividing the roots either in the spring or autumn. The young shoots, cut at the time of flowering and dried in the shade, are used for seasoning. The plant is highly aromatic. **Sweet marjoram** is raised from seeds sown annually in the autumn. This plant is highly aromatic, and is much used both in the green and dry state for flavoring soups, etc. **Rosemary** is a half hardy, half shrubby plant, which requires a light, dry soil and sheltered situation. In addition to these we may enumerate sage, thyme, tansy, etc. One or more hop vines should also be found in every garden.

Domestic Receipts.

BROILED LOBSTER.—After having boiled the lobster, split it from head to tail, lay it open; put pieces of butter over the meat; sprinkle it with pepper, and set the shells on a gridiron over the bright coals until nicely heated through. Serve in the shells.

TO ROAST A LOBSTER.—Parboil a lobster; take it out of the water; rub it over with butter, and put it in a dish before the fire, baste it well with butter until it has a fine froth, and serve.

LOBSTER PIE.—Pick all of the meat out of the lobster, spawn and green; cut all up fine in a chopping tray, or beat it in a mortar; season it with pepper, salt, and vinegar; melt the butter; stir all together with a cupful of bread crumbs; put puff paste around the pie-plate; put in the meat; cover it over with paste; make a hole in the top; bake it in a slow oven.

MINCED LOBSTER.—Pick the meat from a fresh lobster; mince it very well, and put it into a stew-pan with a seasoning of pepper and salt, a little cayenne, a wine glass of white wine, and one of vinegar. Set it over a clear fire to stew for about ten minutes; melt two ounces of butter, with an anchovy, and the yolks of two well-beaten eggs; stir it into the lobster, and thicken the whole with bread crumbs; place it in a dish, and garnish with the claws and double parsley.

LOBSTER SOUP.—Pick the meat from a lobster already boiled, from the shell, and cut it into small pieces; roll the biscuits to a powder; put a quart of milk and a quart of water into a tea-kettle boiler, with a tablespoonful of salt and a teaspoonful of pepper. When the milk and water are boiling hot, add the lobster and pounded biscuit mixed to the soup with a quarter of a pound of fresh butter; let it boil closely covered for half an hour; pour it into a tureen, and serve.

FAMILY PUDDING.—One pound of flour, one pound of suet, chopped fine, three-quarters of a pound of sugar, one pound each of carrots and potatoes, well boiled and mashed together, half a pound of raisins, three-quarters of a pound of bread crumbs; spice, flavoring, and peel optional. Mix the whole together with a little water. It must not be too stiff, and certainly not too moist. Rub a basin well with drippings, and boil for three hours.

TO BOIL HAM.—The ham should be nicely washed in warm water and put into cold water. Allow a quarter of an hour to a pound of ham. When sufficiently boiled, remove it from the water, and place it in a baking-pan; remove the rind, and roast or bake one hour in a quick oven, dredging it frequently with a mixture of finely-powdered and sifted bread crumbs and flour, in the proportion of one part of flour to three of bread crumbs. If not scorched it will look finely upon the table. The flour prevents the crust or crumbs from scattering over the ham when cut.

Mechanical Hints.

COATING FOR BRICK AND OTHER OUTSIDE WALLS.—The following coating for rough brick walls is used for painting lighthouses, and it effectually prevents moisture from striking through: Take of fresh Rosendale cement three parts, and of clean, fine sand one part; mix with fresh water thoroughly. This gives a gray or granite color, dark or light, according to the color of the cement.

If brick color is desired, add enough Venetian red to the mixture to produce the color. If a very light color is desired, lime may be used with the cement and sand. Care must be taken to have all the ingredients well mixed together.

In applying the wash the wall must be wet with clean fresh water; then follow immediately with the cement wash. This prevents the bricks from absorbing the water from the wash too rapidly, and gives time for the cement to set. The wash must be well stirred during the application. The mixture is to be made as thick as can be applied conveniently with a whitewash brush.

It is admirably suited for brickwork, fences, etc., but it cannot be used to advantage over paint or whitewash.

PAINT FOR SHINGLES.—Slake stone lime by putting it into a tub, to keep in the steam. When slacked, pass through a fine sieve, and to each six quarts of it add one quart of rock salt and one gallon of water; boil and skim. To each five gallons of this add pulverized alum, one pound; copperas, one-half pound; potash, one-half pound; hard-wood ashes, sifted, four pounds. Apply with whitewash brush.

LIFE THOUGHTS.

FEAR anticipates and magnifies future evils.

AMONG the base, merit begets envy; among the noble, emulation.

POLITENESS is the just medium between ceremony and rudeness.

A MAN of sense may disdain an artifice as a rich man may wear a plain coat.

IT too often happens that experience, like the stern light of a ship, illumines only the path we have traveled.

THERE is frozen music in many a heart that the beams of encouragement would melt into glorious song.

FEW persons have sufficient wisdom to prefer censure, which is useful to them, to praise, which deceives them.

WE may not like all the company we meet with, but if we are brought in contact with it, we must make the best of it.

THE manners which are neglected as small things are often those which decide men for or against us.

THE Scotch have a maxim to this effect: It is best to let a sleeping dog lie—especially if his fangs are sharp and he knows how to use them.

HE that will do no good offices after a disappointment must stand still and do just nothing at all. The plow goes on after a barren year; and while the ashes are yet warm, we raise a new house upon the ruins of a former.—*Seneca.*

IN vain do they talk of happiness who never subdued an impulse in obedience to a principal. He who never sacrificed a present to a future good, or a personal to a general one, can speak of happiness only as the blind do of colors.

CO-OPERATION is the key to the wealth of the earth. Justly, wisely used, it will give to the laborer what should be his, the profits of his own earnings.

Cast a Line for Yourself.

A young man, poor and dejected, stood watching some anglers on the banks of a stream. At length, approaching a basket well filled with fine fish, he sighed, and said:

"If I now had these I would be happy. I could sell them at a fair price, and buy me food and comfortable lodging."

"I will give you a good fish," said the owner, who chanced to overhear his words, "if you will do me a trifling favor."

"And what is that?" asked the other, eagerly.

"Only tend this line till I come back; I wish to go on a short errand."

The proposal was eagerly accepted. The old fisherman was gone so long that the young man began to be impatient. Meanwhile, however, the hungry fish snapped greedily at the baited hook, and the young man lost his depression in the excitement of pulling them in, and when the owner of the line returned he had caught a large number. Counting out from them as many as were in the basket and presenting them to the young man, the old fisherman said:

"I fulfill my promise for the fish you have caught to teach you that whenever you see others earning what you need, to waste no time in fruitless wishes, but to cast a line for yourself."

SILENT INFLUENCE.—If a sheet of paper on which a key has been laid be exposed for some minutes in the sunshine, and then instantaneously viewed in the dark, the key will be visible. Let this paper be laid aside for many months where nothing can disturb it, and then in darkness laid on a plate of hot metal, the spectre of the key will appear. This is equally true of our minds. Every man we meet, every book we read, every picture or landscape we see, every word or tone we hear, leaves its image on our brain. These, which under ordinary circumstances, are invisible, never fade, but in the intense light of cerebral excitement, start into sight on the application of heat. It is thus with all the influences to which we are subjected.

FORTITUDE.—In the lives of all of us there are hours of anxiety, disappointment, pain, and vexation, seasons of trial that are to be met only with stubborn patience. Greatness of soul is tested by the serenity with which these inevitable ills are born and finally overcome. The little mind will fret and chafe and fume over little things, even as the petty stream over its narrow, pebbly bed, while the deep, strong, mighty river moves swiftly and silently over the boulders that lie at its bottom.

Agricultural Colleges.

MESSRS. EDITORS:—Your enquiries with regard to the working condition of the various Agricultural Colleges of the country, and the prospects of the Agricultural Department of the University of California, I can answer more fully now that their anniversaries have passed, and since the visit of Gen. Horace Capron, late head of the Agricultural Bureau at Washington enables me to give you a summary of his recent personal examinations. I will name them in what he considers the order of their excellence, taking the time since the organization and means employed fully into account.

1st—Massachusetts's Agricultural College

At Amherst, endowed by two-thirds of the Congressional grant, (the other third going to the Institute of Technology at Boston, \$168,000, gift of county, \$75,000, State of Massachusetts, \$120,000, to which was added by the legislature of last winter \$150,000, and from private individuals enough to make a productive fund of \$500,000.) Chartered April, 1863, opened to students in 1867. Jan. 1st, 1871, had 147 students, of whom 30 were in the fourth or senior class. Two weeks ago the original 27 who first entered received the honors of the Institution. Its real estate is valued at \$196,500. Its live stock, vehicles and implements, \$15,000. Of this stock the herd book shows fourteen short-horns, five Ayrshires, four Devons, and four Jerseys, twenty-seven grade cattle, twenty-seven Southdown sheep, nineteen swine of the Suffolk and Chester White breeds, and six horses.

Eighteen dollars a term is charged for tuition. The necessary annual expenses of students are from \$250 to \$300. All the county and District Agricultural Societies of the State own scholarships in the institution and send students approved by their own examiners whose expenses are paid. A labor corps is established for the benefit of such students as desire to work their way through the college, and so important do the trustees find this feature, that they recommend raising a fund for employing industrious students at a fair rate without too strict regard to the remunerative value of their labor, that habits of industry and a spirit of independence be fostered and encouraged, and because such students are most likely to become valuable members of the agricultural community. All students are required to labor two hours on alternate days, with the skillful and intelligent superintendent of the farm. For all additional work they are paid 12½ cents per hour. It not unfrequently happens that the best student, earns the most money!

What do they Study at Amherst?

The very first study of the first year is human anatomy and physiology, with chemical physics, commercial arithmetic, and book keeping. They have lectures on agriculture, considered first as an art, and in its relations to other pursuits, and are taught what education a man must have who would succeed in it. There they begin to examine the subject of soils, their origin, nature and varieties. Lectures through the term on the laws of health, and daily military drill, "the school of the soldier."

The second term they begin chemistry, learn how soils are improved by chemical and mechanical means, the philosophy of drainage, irrigation and tillage, the chemistry of the improvement of metals and their use in the arts. With this, instructions in elocution. Vocal music and composition, also military exercises in the "school of the company."

With the third term, closer habits of study and observation are found. We have more lectures on agriculture, on sterility of soils, causes and remedies, rotation of crops. Now comes organic chemistry, and laboratory instruction, the close practical imitation of Nature's great process. Daily recitations in algebra, geometry and French, in elocution and reading. Infantry tactics are continued in the "schools of the company and battalion."

Three years more of orderly progression from this starting point of symmetrical rational development of every faculty of body and mind, science and art moving hand in hand. Every step made practical, ought to make a Massachusetts farmer every inch a man. No sensible person can read the full circulation of strides pursued, especially history, political economy, commercial and rural law, etc., and not be convinced of the immense advantages of the

"new education" over the old as a preparation for citizenship.

The Corps of Instructors

Consists of eight full Professors with two assistants, a gardener and farm superintendent. There are fourteen lecturers, men distinguished in special departments of science, as Prof. Hitchcock on Comparative Anatomy, George B. Emerson on Arboriculture, James Law on Diseases of Animals, etc., who regularly fill their appointed places in the course of study.

The Massachusetts Agricultural College owes much of its prosperity to a wise provision or its charter which gave a trustee to each county, and made the appointment one for life, unless removed for cause. The representative of old Suffolk is Hon. Marshall P. Wilder; of Berkshire, Henry Colt; of Bristol, Nathan Denfee, who has at his own cost erected a magnificent conservatory upon the college grounds. Each county has given its best man, and one distinguished for knowledge and zeal in these pursuits, and thus some of the evils which State Institutions labor under are practically avoided. To show that a farm, vegetable garden, orchards, etc., are not serious drawbacks to the financial prosperity of agricultural colleges, even in their early beginnings, I append this item of the Amherst records for 1871:

Total credits of farm, including property inventoried Jan. 1st, 1871, credit for labor performed in grazing, and receipts for produce and live-stock, \$19,873.19.

Total debits of farm, including property inventoried, Jan. 1st, 1870, and all expenditures for live-stock, labor implements, repairs and fertilizers, \$21,409.69.

Three hundred and eighty-three acres of the Amherst domain have been judiciously divided into farming ground, wood-land, orchards, vineyards, reserve, vegetable and nursery gardens, botanic garden, ornamental grounds and arboretum. A generous citizen has donated \$10,000 for the care of the botanic garden. The model barn, capable of holding fifty head of cattle and horses, cost \$10,000. The most expensive of the college buildings cost \$36,000; farm house, \$4,000.

So much for an institution, which throughout its course of study, and by every appliance of instruction, emphasizes the truth that one of the most dignified and important of human employments is to feed and clothe the world, and strives to make the workman worthy of his work.

Cornell University

Nobly endowed and wisely planned to meet the educational wants of all our leading industries is likely ere long to rival Amherst in calling the most distinguished agriculturists into her service, and by perfecting a model farm, under the direction of Henry McCandler, late of the Royal Agricultural College of Scotland. The agricultural and mechanical operations at Cornell have been carried on mainly by students. They have done a large amount of under-draining and other substantial work during the present year, at the rate of 10 cents per hour. "As a class the President reports the working students in the voluntary labor corps among the very best in the University."

Among many prizes to undergraduates, it is noticeable that the founders prizes, are, 1st, "To the student of the voluntary Labor Corps on Agriculture, who, without neglecting other university duties shall show himself most efficient, practically and scientifically upon the University farm, \$50; second in merit, \$20; 3d, \$10. 2d, The same amounts to meritorious students who excel in the University workshops."

The President's prizes fully recognize agriculture; one of \$50 being offered for the best thesis, or original investigation; \$50 for meritorious student in botany and horticulture, with several others of smaller value. The noble spirit of beneficence in which this Industrial University was begotten is self-perpetuating; gifts to meet its varied and growing wants are pouring in; it needs only to be free, and open to both sexes to be worthy of its position in the Empire State. Opened in 1868; it numbers 800 students.

Iowa Agricultural College,

Located at Ames, Storey county, was opened in 1869, to both sexes, with a well developed labor system for horse and farm. All members are "laborers" during the afternoon, at prices varying from five to ten cents per hour. Has an excellent farm of 640 acres, tuition free. General Capron reports this as one of the very best institutions founded on the Congressional grant, and far in advance of some who got a greater share of the lands.

Kentucky

Leads all the Southern and Southwestern States in industrial education. The Agri-

cultural Department of her State University, has a farm of 433 acres, consisting of Ashland, the home of Henry Clay, and the adjoining estate of Woodland's. Every student is required to work two hours a day in the horticultural department without compensation. Those who wish to defray a part of their expenses by their labor can work four hours a day on the farm, or five hours in the shops, receiving from five to ten cents per hour. One hundred young men were enrolled on this labor corps in 1869, many of them defraying all their expenses. Of 757 students in the University, 383 were in the agriculture and mechanical departments.

Illinois

Has a farm of a thousand acres, to be developed principally as an experimental and stock farm; forty acres are set apart for gardens and nurseries. Labor classes have been organized.

Maine

Is developing her farm of 373 acres in the direction of horticulture, especially fruit growing. From one-fourth to one-half the expenses of students have been defrayed by their employment in this work.

Kansas

Has a well organized labor system, employing both sexes; carries on experimental and miniature farming, allotting portions of land to students.

Wisconsin

Is rapidly developing her farm. Students are paid 12 cents per hour. Several acres are used as experimental grounds by the State Horticultural Society. An excellent report of farm operations is published annually.

Without specifying further the many excellent institutions which might be added to this list, it is enough to say that in almost every one founded upon or receiving the benefits of the Congressional grant, the labor of the students is being used to develop the industrial departments. Michigan early adopted this system, and no student is excused from his daily three hours labor except for physical disability.

Missouri,

Who thus far has not realized a dollar from the grant of Congress, started her Agricultural College in connection with the State University, bought a farm, organized a labor corps under the direction of the agricultural professor, hired a farm superintendent and horticulturist, and now asks the legislature for one hundred thousand dollars with which to bring it up to the standard of her neighbors. "The agricultural farm must be made a model, representing the State of Missouri, it must be stocked and furnished and sustained for a brief period after which it will be self-supporting," say the Curators.

General Remarks.

Briefly then, the Agricultural Colleges without a notable exception are meeting the reasonable expectations of the public. They flourish just in proportion to the prominence given them as integral parts of the system of public education. Where the Agricultural College is made a mere adjunct or appendage to a literary institution student saro few, undecided as to their pursuits, and led by sympathy away from the specific objects of agricultural training.

The Agricultural College of our University is in (prospective) occupation of a farm so admirably located and adapted by diversity of soil and exposure to various cultures, that by an organization of students' labor it may be improved with a moderate outlay of funds. Its course of theoretical instruction is well arranged, but theoretical instruction alone is not going to make farmers of our young men. It is for the State to decide whether she will lag behind all others in this respect; the Regents are the executives. Whether the University lands shall remain for a long term of years an undeveloped site, suggestive of splendid possibilities remains to be seen. The education of our youth in the interest of agriculture and the mechanic arts, the object of the Congressional grant, is to me the most vital of "labor questions." This ought to be secured with the least possible sacrifice of productive industry, a principle which Cornell University and several others apply in farm and workshop, with manifest economy of their funds.

While Minnesota is planting orchards, and Massachusetts growing complete collections of California trees and shrubs in their Agricultural College grounds it is not surprising that the question is so often asked what our agricultural department is doing in a practical way. Local and private enterprises are being started for industrial education at other points, which may take the place of the German real

schools, but the University should lead instead of follow in everything which tends to develop, diversify and ennoble the industries of the State. Very truly yours,

EZRA S. CARR.

University of Cal., Oakland, Aug. 5, '71

Wine Statistics for 1870.

The California Farmer publishes the following estimate of the gallons of wine yield of Sonoma, Napa and San Joaquin counties, in 1870:

For Sonoma:—Buena Vista 125,000, A. F. Haraszthy 18,000, Tichnor Estate 55,000, Hanbert 5,000, Dresel & Dundlack 70,000, Winkle 20,000, Rufus 8,000, Synder 10,000, Aguilon 25,000, Dr. Faure 8,000, Robbins 7,000, Edwards 30,000, Craig 30,000, Carriger 30,000, Fowler 12,000, O'Brien 9,000, Krohn & Williams 16,000, Stuart 20,000, Warfield 9,000, Justi 3,000, Lamotte 90,000, Guerin 12,000, Temple 14,000, Taylor 10,000, Woehler 8,000, Gaess 7,000, Watris 7,000, Pontlerer 5,000, Hill 6,000, Whitman 7,000, Samuel Naus 3,000, Quitzoe 10,000, Jones 3,000, Hamilton 3,000, Wise 4,000, Whemquarter 12,000, Dunbar 7,000, William Hood 20,000, Bennetts Valley 60,000, Roger's 4,000, Sewell Estate 5,000, James Shaw 5,000, O'Brien 8,000, Englander 15,000. Total, 744,000.

For Napa the figures are:—S. Wing 8,000, Lockwood 2,500, Winters 20,000, Mansfield 8,000, G. Grozinger 90,000, Backus 3,000, Pellet 35,000, Siegrist Bros. 36,000, Crane 25,000, Neighbor to Wing 5,000, Kruger 22,000, Neighbor to Lockwood 12,000, Fulton 10,000, Woodward 20,000, Dr. Wood 5,000, General Keys and others 12,000. Total, 311,500.

For San Joaquin:—Clement Detten 6,000, H. Meyers 12,000, George West, 13,500, others about 10,000. Total, 41,500. Total in three counties 1,097,000 gallons.

In Sonoma:—The following are those who sold grapes or made wine, but their number of acres are alone estimated:

Smith 30, his Neighbor 20, W. T. Shaw 12, O. B. Shaw 20, Wratten 30, Sewell 12, Giovanari 10, Seiding 9, Shaddock 10, Col. Rodgers 10, Eldridge et al. 15, Duhring 5, Schell 5, Popper 5, Lubeck 5, Whallon 20, Maxwell 30, Doty 6, Leavenworth 10, his Neighbor 30, Walton 25, Sheller 35. Total, 345.

Estimating these 345 acres or at an average of 750 vines per acre (some have more and some have less), at 300 gallons per acre, we have then to add 106,200 gallons more in Sonoma.

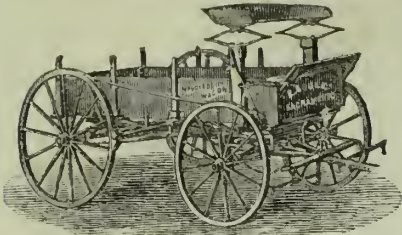
ENCOURAGING.—Our agent, M. B. Starr, has been traveling for some months in the counties of Napa, Sonoma, Marin and Solano, to the north of the Bay of San Francisco, where he has met with the most gratifying success. Many hundreds of names have been added to our list in those counties; and from the numerous letters we receive, we have every reason to believe that the RURAL PRESS is duly appreciated there. There is no part of the State where the farmers have more to encourage than in the counties to the north of San Francisco Bay. The present dry season which has brought so much disaster on other portions of California, has scarcely been felt in the district referred to—the enhanced prices for produce having been a pretty full compensation for the little damage which has been sustained from drought in that locality. Our weekly summary of agricultural progress, and our occasional special notes may be cited in evidence of this fact. We bespeak for Mr. Starr and his labors the continued favor of our agricultural friends in that favored section of the State.

Meteorological.

EDITORS PRESS:—Your correspondent "G. W. T. C." propounded some queries in your publication of the 20th of May which had no connection with the question at issue. His queries relate to weight of rain fall, not to seasonal rain fall? Now from the date of his last letter, up to the 19th of June, heavier and later rains fell in California than has fallen, to the knowledge of the writer, during a residence of 11 years; thus justifying, or far as analogy concerned, the observation of Dr. Newer hall. If "G. W. T. C." chooses to dispute the point farther, the writer is quite ready to assign natural causes why such result is probable, on the condition, that he come out over his real name; the writer of this will also do the same. I did not reply earlier as I wished to see the rainy season of 1870-71 out; since which period, other (private) matters have intervened.

RUSTICS.

San Antonio July 27th, 1871.



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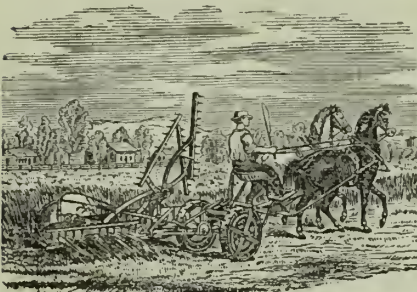
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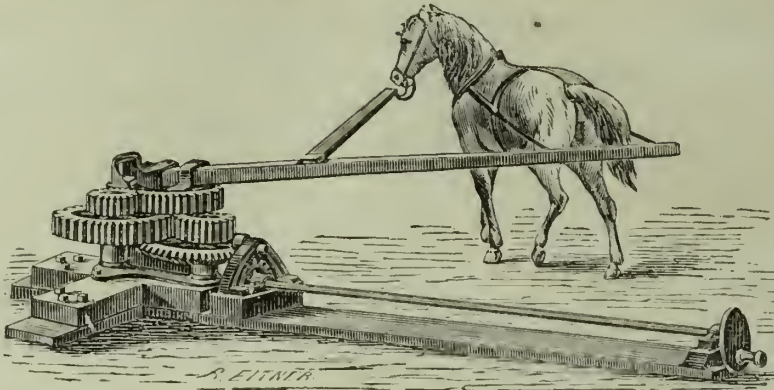
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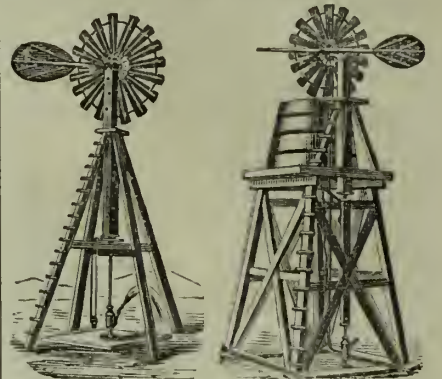
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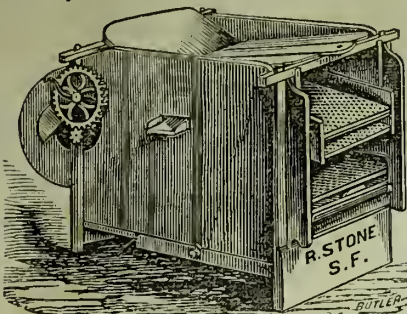
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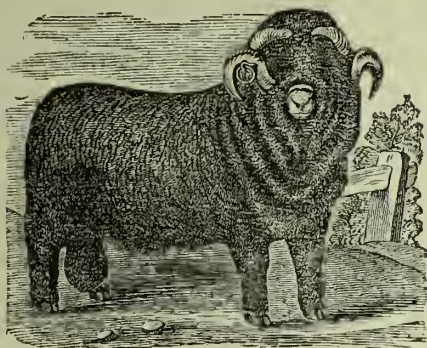
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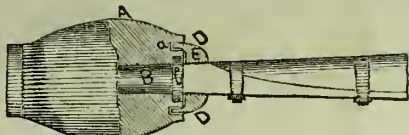
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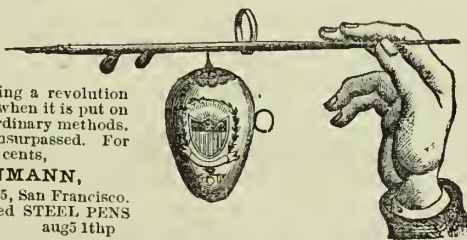
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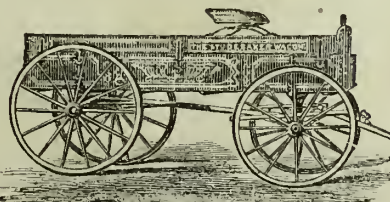
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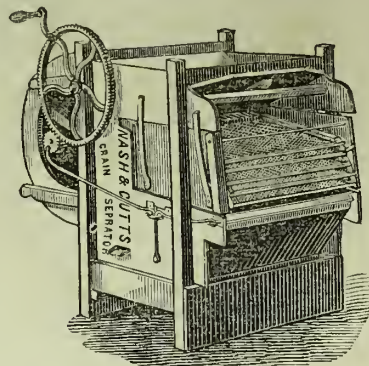
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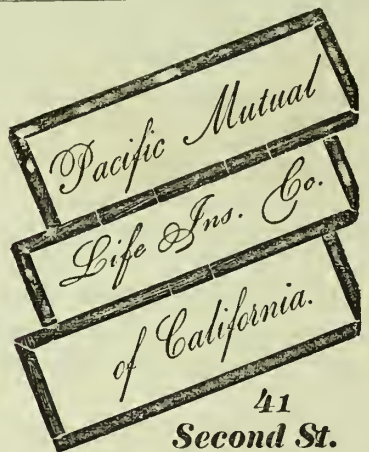
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for few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

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An improved Cultivation of the Soil;
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Valuable and Timely Hints,

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As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxiliary and modifying instructions.

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THE ELEVENTH



ANNUAL FAIR

—OF THE—

SAN JOAQUIN VALLEY

AGRICULTURAL SOCIETY

Will be held in the

CITY OF STOCKTON,

Commencing on

TUESDAY, 12TH DAY OF SEPTEMBER,

And closing on the Friday following.

Liberal Premiums

Are offered, to be awarded to competitors in every department of industry—Agricultural, Mechanical, or otherwise.

For further information all persons interested are referred to the Premium List, which will be circulated throughout the entire State.

A suitable and safe Hall will be provided for the exhibition of all valuable articles.

Ample arrangements have been made for the accommodation of stock of every class at the Fair Grounds, and the

RACE TRACK

Was never in finer condition than at present, and in trials of speed liberal premiums are offered to attract the attention of all owners of fine Stock.

On Friday Evening, September 15,

THE

ANNUAL BALL OF THE SOCIETY

Will be held.

Every possible effort will be made by the Managers of the Society and the citizens of Stockton, to contribute to the comfort and pleasure of visitors from the country, to whom a cordial invitation is extended to be present on that occasion.

Persons desiring information may address either of the following:

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FOR SALE, AT THE TAHOE FISH-ERY, situated five miles from Truckee City, C. P. R. R.,

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ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address STORRS, HARRISON & CO., 1v2-6m Painesville, Lake Co., Ohio.

RIFLES, SHOT-GUNS, REVOLVERS, Gun Material. Write for Price List, to GREAT WESTERN GUN WORKS, Pittsburgh, Pa. Army Guns, Revolvers, Etc., bought or traded for. Agents Wanted. 6v2-6m

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BURR STONE COMPANY,

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The best and cheapest Domestic Pump in the market. BERRY & PLACE, Wholesale Agents, 112 California St. San Francisco.

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Are prepared to build Wooden and Iron Bridges on SMITH'S PATENT TRUSS PLAN.

Plans and specifications furnished to counties or persons desiring to build. Lithographs and prices sent on application.

Smith's Cast Iron Pier, durable as stone, and adapted to resist rapid currents, put in at low rates. Address PACIFIC BRIDGE CO., 3v2-3m-6ow Oakland Cal.



Volume II.]

SAN FRANCISCO, SATURDAY, AUGUST 19, 1871.

[Number 7.]

Combined Seeder and Cultivator.

The machine, a representation of which is herewith shown, is known as "Gorham's Combined Broadcast Seeder and Cultivator." Many devices have been introduced to do the work performed by this machine; but all have more or less objectionable features, which it is difficult to surmount. Perhaps one of the greatest difficulties encountered is that of effecting a uniform sowing of the grain.

Any machine that has a continuous dropping orifice, or a multitude of separate and smaller ones, or those which open and shut, and with stirrers over them, must be defective, from the fact that it is impossible to measure through such orifices. Again, machines which have measuring cups that open and shut, are always liable to be choked with straw, or to fail, from the fact that the opening and closing may not always be uniform. Hence the grain is sown unequally, and want and waste ensue.

It is claimed by the inventor that this machine obviates this difficulty by adopting the following seeding device: A series of seed wheels or droppers is placed two feet apart, and attached to a shaft that runs through the center of the box. To each of the seed wheels five cups are attached; each wheel is enclosed by partitions on either side that are open at the bottom to admit the grain to the wheel. Now when the seed wheels revolve, the cups are drawn upward through the grain, each taking a given quantity which in passing around is poured on the beveled surfaces in front that deflect the seed into troughs on either side, where it runs in a continuous stream upon the scatterer below.

It will be readily understood by the above description that the essential principle is the measuring and pouring of the seed, and that this result is produced by a device that cannot cut or injure the seed in its passage to the ground.

The scatterer is a distinct fixture that receives the grain from the seed wheels, distributing it equally over the land; and yet being so open in its throat as to pass straw and other foul substances without clogging.

The quantity sown is regulated by different sized gears, placed at the end of the box, which give the seed wheels different motions. Grass and other small seeds are sown, by inserting a supplemental cup in the grain-cups, closing the grain orifice, leaving an orifice proportionally large for the smaller seeds, when the same series of gears are used to regulate the quantity per acre. Thus it is that the finest seeds as well as the coarsest grain are distributed with the greatest accuracy.

The cultivator attachment for this seeder is on the independent slip-tooth principle, with a new device, very simple and effective.

It will be seen by the accompanying illustration that the cultivator is raised in two sections, thus avoiding the necessity

of a very heavy lift, as when all the teeth are raised at once.

The cultivators can almost instantly be detached if occasion requires. The weight of the 6-foot machine is 500 lbs. only, and is handled easily by an ordinary team in any kind of soil. This is the smallest size; but there are three sizes larger. It sows equally well in windy or still weather.

One of these machines may be seen in the Agricultural department at the Pavilion. It is now for the first time introduced to the farmers of California. It has been largely introduced into Idaho, where we understand it is giving the fullest satisfaction. We have seen numerous testimonials to that effect.

Betts, Brown & Co., are the owners of the patent right for all the Pacific States and Territories except Idaho and Montana. W. H. Pope, General Agent.

STILL COMING.—Four more car-loads of hogs have arrived in this city from Iowa,



GORHAM'S COMBINED BROADCAST SEEDER AND CULTIVATOR.

during the past week. They were very fat, and estimated to weigh an average of 250 pounds each. This is the sixth lot of hogs shipped to this city by the same party from Des Moines county Iowa. Shipping corn and hogs 2,000 miles by rail to this city furnishes a most unfavorable commentary on the manner in which farming industry is conducted in this State—but a most encouraging one for those at the East and in Europe who are inclined to immigrate hither and conduct farming operations on sound principles.

NOT SO BAD.—Mr. W. W. Drury, who left a sample of ramie in this office last week writes us that we were mistaken in saying that it grew on land unfit for vegetables; as he has potatoes, corn, beans, etc., making a good growth in near proximity and on similar soil to that on which his ramie is growing.

ANGORA GOATS.—Mr. Peltier, of Mulwala, Australia, who has bred pure Angora goats for several years, says they give more and richer milk, are more hardy and better able to stand the droughts and are not so easily injured by young grass as the common goat. He calls the Angora the "poor man's friend."

Silk Culture in Utah.

From Samuel Cornaby, at Spanish Fork, Utah Territory, we have the most flattering accounts of the success of silk culture in that part of the Territory. He says:

"Our crop of silk in this locality has been good this season. The worms were quite healthy, in all cases where they received proper attention. Our silk is produced in families, and this system, so far, has been very successful. I believe upwards of fifty families have produced silk this season, in Spanish Fork. I would like to send a sample of our silk to the State Fair, did it not seem ridiculous to send silk to California, that land of silk. Perhaps a sample of osage orange-fed silk may be interesting from its novelty.

I have some produced by worms that have been fed four successive years on osage orange, and could present it in an attractive form. Would it be advisable?

I have received very favorable reports from my silkworm eggs from different parts of our Territory, this season; also from C. V. Riley, of St. Louis, State Entomologist of Missouri. He says he never

Heavy Hay.

We are told that the hay cut about the bay of San Francisco is heavier this year than last—the same presses this season turning out bales averaging from 25 to 50 lbs. more than those pressed last year, "Why is it?" we are asked.

Possibly one reason for the fact, if fact it is, may be that a larger amount of sugar, starch, etc., has been eliminated this season than last, and less fibrous material. The former would occupy much less space, according to its weight, than the latter. In addition to that, owing to the dryness of the season, the stalks of grass have been finer and shorter, and consequently more compressible.

We believe it is generally conceded that there has been a much larger amount of wheat obtained this year, in proportion to the weight of straw than usual. The dry weather early in the season would not admit of a rank growth of straw, while the cool and moist atmosphere, and frequent fogs which prevailed while the seed was ripening favored its full maturity and plumpness.

IMPROVING THE QUINCE.—A correspondent of Tilton's *Journal of Horticulture* in urging that more attention should be paid to improving our various fruits and flowers, suggests that with care and patience we may yet obtain a quince as melting, palatable and digestible as pears. What a grand fruit we should have, if such a result could be obtained—if we could retain the flavor and aroma of the present quince and add them to the soft, melting juice pulps of the peach or pear! Such a result is by no means improbable. Less labor has probably been devoted to improving the quince than has been bestowed on any other fruit of the temperate zone.

THE MERCED COTTON EXPERIMENT A SUCCESS.—We have received a note from Col. J. M. Strong assuring us that his Cotton Crop at Snelling, on the Merced river is now sufficiently advanced to assure success. He says:—"I regard it as no longer an experiment. The present crop will yield far above the average crops of the South."

FINE VEGETABLES.—We have received from Mr. Joshua Poole, of Rio Vista, the inventor of a novel and useful machine for breaking up tule lands, some fine samples of onions and tomatoes grown upon such land on Andrews Island, that was first broken up last fall. No better samples could be produced any where, even on our richest river bottoms. We are almost daily furnished with additional evidence of the value of these lands, and the facility with which they may be brought into the highest state of cultivation.

ARTESIAN WELLS IN LOS ANGELES.—Ten firms are now engaged in sinking artesian wells for irrigation in Los Angeles county.

YOSEMITE.—Over 1,000 persons have visited the Yosemite, this season,—by one route—*via*. Modesto.

GRAND ISLAND.—Capt. Walker, of the Tide Land Reclamation Company, has been, in addition to his present position, appointed General Superintendent of the works on Grand Island.

HOME AND FARM.

Patrons of Husbandry.

This is the title of a new Secret Order about to be instituted in California. It is to be confined to persons interested in agricultural pursuits; is of recent origin, but has been already organized in twenty-six of the States.

No ecclesiastical sect or political party is recognized by the Patrons; but the single purpose of the Fraternity is to diffuse information useful to farmers, and to protect their interests. Males of sixteen and females of eighteen years of age are eligible to membership, and the sexes are admitted on the plane of equality.

This concession to the other sex is a sign of the times that the day is fast coming when women will be as unembarrassed as men are in selecting and in pursuing the means of livelihood; when her talents will be as legitimately exercised and her position in life settled according to her own choice or fancy, with as much propriety, and as much in accordance with public opinion, as is now the case with the opposite sex. Woman has heretofore been compelled to submit to rules of unfair discrimination, and the revolution in which she is so active seems to furnish the evidence of a transitional state, to be followed by an era of social harmony and of domestic happiness. Perhaps there is no walk hitherto confined to the other sex, in which women may more freely enter, and in which she bids fair to meet with greater success than in agriculture. Hence it is proper in this "new departure" that women should stand by the side of "her lord" his equal as well as his companion.

But to return, it is evident to all intelligent minds that the time has come when all engaged in rural pursuits should have an organization devoted entirely to their interest. Such is the Order of Patrons of Husbandry, which was instituted in 1867, and which has in the short time that has since elapsed spread like a network over the whole Eastern portion of the Union. It is an organization which it is designed shall bind together in one brotherhood all the agriculturists of the land, by an organization which should have a central head, by which all branch organizations might be reached, and through which all branch organizations could be put in communication with each other.

Active arrangements are now being made to introduce it on the Pacific Coast. There is a gentleman—a prominent agriculturist of our own number and whose name will soon be announced, who is empowered to set the machinery in motion.

Remarkable Results

Of an eminently practical nature have already been achieved at the East. It is there visibly drawing producers and consumers closer together, dismissing to productive employment vast numbers of middlemen, and bringing down to a reasonable standard the prices of manufactured articles that are in constant use by agriculturists. It is establishing "Granges" in every town and village, to which men and women are equally admitted as members, thus recognizing the real influence of woman in the highest triumphs of agriculture. In the National Grange, all the States of the Union have representatives.

A Few Facts.

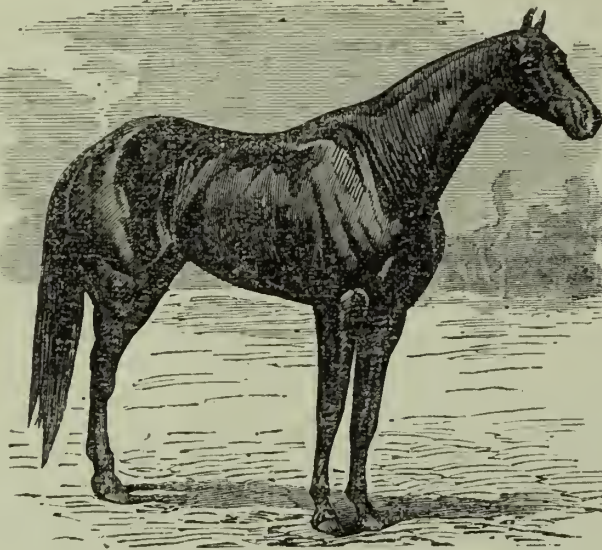
Will best illustrate the working of this extended association of agriculturists. A single county in Illinois saved to the farmers last season, fifteen thousand dollars on the price of farm tools. Ploughs that before cost from twenty-two to twenty-eight dollars, are purchased by this association at from fifteen to nineteen dollars. Cultivators dropped in price to the Western farmer from thirty and thirty-five dollars to twenty-one and twenty-six. So with trees and plants from the nurseries.

Produce will likewise reach the market at lower rates, thus saving the difference to the farmers instead of enriching those

who scarcely trouble themselves to hand it at all. Agents, from every local Grange will find the profitable market for beef, mutton, butter, cheese, eggs, fruit, grain, and other staples of agriculture, and save to the agricultural class sums which the consumer helplessly pays over to the exacting middlemen. Here is the point where this organization specially benefits the farmer; it enables him to command the market, instead of being made the continual prey of plundering traffickers, who never did a day's work in their lives. This is the real good of organization. The railroad men, the iron men, the manufacturers, the shoe and leather dealers, the coal men, the real estate men, all have their compact associations, their exchanges, boards of trade, and so forth, professedly to further their own interests.

COMPULSORY EDUCATION, about which much is being said at this time is not a new idea. John Knox, in his "First Book of Discipline," enjoins that "provision be made for those that be poor and not able of themselves nor their friends to be sustained at letters, for this must be carefully provided, that no father of whatever state or condition that ever he may be, use his children at his own fantasie especially in their youth-head, but all must be compelled to bring up their children in learning and virtue."

LARGE LAND SALE IN OREGON.—The Land Grant of the Willamette Valley and Cascade Mountain Wagon Road, extending from Albany to Eastern Oregon, and



GEORGE PALMER.

covering an area of 800,000 acres, was sold on the 3d, inst., to Mr. T. Edgerton Hogg of this city, in behalf of himself and a company of San Francisco capitalists.

Celebrated Trotters.—No. 7.

George Palmer.

This is a light, neat bay horse, pedigree unknown. He is very fast, and bids fair to make a stayer in the best of company. He trotted in 2m., 19 1/4s., and may perhaps improve.

FOR TRAVELERS.—An instrument has been invented that marks "the ebb of time," showing how many minutes there are prior to any event. If placed in the post-office it reads: "Mails open in thirty minutes;" one minute later it reads, "in twenty-nine minutes;" then in twenty-eight, and so on. At a railway it reads:—"This train leaves in ten minutes," then in eight and etc., and when the index reaches 0, the train starts. Thus any passenger on entering a station knows just how much time he has for getting tickets, checks, a newspaper, and a seat, without consulting a watch or a clock to ascertain the hour of day.

THE LATEST THING ON SKATES.—Professor Lovett, the expert skater and manager of Woodward's Skating Rink, is having a Pedespede or one-wheeled Skate made, on which he will in future give his skating exhibitions. The wheels are some eighteen inches in diameter, and the skate is strapped to the side of the leg.

FLORAL NOVELTIES.

The Compass Plant.

Resin weed, or as it is sometimes called the Compass Plant, says a correspondent of *Tillon's Journal*, possesses the peculiarity of pointing its leaves north and south, while the flower on the top of the stalk faces south. This is a general, though not an invariable rule, and the plant is often looked to by travelers as a guide—hence its name "Compass Plant."

Resin weed—its other and more common name is more especially indicative of its character. "Its stalks," says the correspondent, "which are four to eight feet high, contain quite a quantity of resin, so much that when the cattle or horses eat off the tender top, a gum forms on the top of the broken stalk—a small lump of good chewing gum, much like spruce gum, and I have often gathered and chewed it, reminding me of my boyhood days in the mountains of New England. We also used to gather a bundle of dry resin weed, and light it, and stick it in the bow of the canoe, for a torch light, to fish by at night. It was excellent sport to see the fine fish gather beneath our light, where we could spear them, and bring in a hundred weight in an hour."

EFFECT OF BATTLES ON VEGETATION.—We find the following paragraph in the *Boston Daily Advertiser*. The effect described is not strange, but it appears singu-

THE GARDEN.

Layering Cucumbers and Squash Vines.

We presume that very few of our readers, says Moore's *Rural New Yorker*, ever think of layering cucumber or squash vines, as a prevention against root borers or for increasing productiveness. It is, however, a beneficial operation, and should not be neglected in localities where insects injurious to these plants are abundant or the vines are likely to fail for want of proper nourishment or moisture. The time to begin layering is as soon as the vines fall over upon the surface and begin to run. They are usually at this time twelve to eighteen inches long and very tender, therefore must be handled with care to prevent breaking.

How to Layer.

Dig a narrow trench two to three inches deep, beginning close up to the root, and make it long enough to admit three or four joints of the vine. Lay the vine carefully in this trench and cover it with soil, leaving the remaining portion in a natural position, extending outward from the hill. From this buried portion scores of new roots will be produced, each equally capable of drawing sustenance from the earth with the first or original. By this process, weak, sickly vines may be strengthened, and should a root borer attack the main stem in the hill, as it usually does, the plant will be slightly injured, if at all, and by twice layering, vines may be kept growing and fruiting throughout the longest and driest season.

Last year we had a quantity of Hubbard squash vines that were badly infested with root borers; but by layering twice, leaving a space of about eighteen inches between each, we succeeded in obtaining an abundant crop, although the old roots were entirely destroyed. It is often the case that squash and cucumber bugs of various species make sad havoc with the young vines early in the season, and it is only by giving extra stimulating manure, or layering, that a good growth can be secured. If any one doubts the benefits of this layering system let him try it on a few vines and satisfy himself of its value.

SQUASHES.—When they have grown to a proper size and before they become too hard, which can be determined by inserting the finger nail, and if in a marketable condition, it will readily take the impression of the nail; if too hard to do it will only do for seed or for stock, have them picked and put into the baskets, cleaning the dirty ones with a dry cloth; place the top ones in nicely, with stem ends down, when possible, so as to present a neat and finished appearance. When shipped from far southern ports, they are often sent in bulk on shipboard, or in barrels.

DEEP CULTIVATION.—A more careful attention should be paid to the preparation of the soil for raising root crops of all kinds. It is now a well understood truth that soil must be *deeply cultivated* to produce well; and soil will be better prepared for another year for the beet root for sugar making and the mangel wurtzel, carrot and ruta бага for stock. By the reports of our City Government it is stated that \$15 per ton for carrots was allowed the contractor for the "Fire Department" for the "Horse Feed." Why did not some of our Farmers take that contract? We think \$15 per ton for carrots will pay when 30 tons can be raised on one acre.—*Ec.*

WATERING PLANTS WITH IRON.—It seems to be generally conceded that wonderful effects may be obtained by watering fruit trees and vegetables with a solution of sulphate of iron. Under this system it is said beans will grow to nearly double the size and will acquire a much more savory taste. The pear seems to be particularly well adapted for this treatment. Old nails thrown into water and left to rust there will impart to it all the necessary qualities for watering vegetables as described.—*Ec.*

"We are inclined to think that the application of almost any well prepared liquid manure, will produce effects equally marked as that noted above. Gardeners have not paid as much attention to the use of manure in that condition as they should do. The Chinese fully understand the value of liquid manure, and use it freely in all their gardens about this city."

A FIFTH class of of the University of California will be formed at Grass Valley.

lar that it has never been noticed before. Has any one ever seen any mention of it?

"Among the evil effects of the war, it has been observed that in the vicinity of the scenes of great battles, vegetation has been generally, if not entirely destroyed, at any rate, materially impaired. Such plants as have not actually died, have withered or grown up wan and sickly, as if poisoned by some injurious substance in the air or soil. German chemists have explained the phenomenon as arising from the diffusion of sulphur in the air and over the surface of the soil. This sulphur in the shape it is contained in the smoke of gunpowder, is supposed to combine with the oxygen in the atmosphere, to form sulphurous acid, a deadly poison in its effects on organisms of any kind."

THE BEAN VINE AND THE SUN.—On this side of the equator, all bean vines at all times twine the same way. Why? It has been a question whether the sun has anything to do with the matter. To settle this question, Prof. J. Parish Stelle wrote to a friend residing in Brazil, just below the Tropic off Capricorn, asking him how the bean winds there. His friend replies that it goes round the pole in precisely the reverse direction from that taken in the United States. How does the bean manage directly under the equator? Can anyone tell?—*Rural Carolinian.*

THE BEAUTIFUL PHLOXES of our gardens all originated from species native of North America; and yet we are indebted to European gardeners for most of our best varieties. We have become so accustomed to see lists in our plant catalogues of the "latest importations," "finest European sorts," etc., that it is to be feared that many persons may believe that these beautiful plants are truly of foreign origin.

AGRICULTURAL NOTES.

CALIFORNIA.

The Harvest Home.

From all parts of the State, north and south, and from Oregon and the Rocky Mountain States and territories as well, we hear much more favorable reports than we had been led to expect during the earlier part of the season. The absence of moisture during the growth of the wheat, caused such a slender stalk, that many farmers despaired of any reasonable result, and cut their wheat for hay. Others, with no better prospects, allowed their crops to mature, and much to their own astonishment, and that of their neighbors, received very fair returns. This result, as we have elsewhere noticed, was due to unusually favorable weather near the close of the season—the uniformly cool weather in the month of May saved hundreds of thousands of dollars to the State, while two or three hot days, with such dessicating winds as often visit us at that season, would have ruined thousands of acres of grain, which had already suffered to the very verge of destruction by the lack of rain.

Now we are blessed and should feel truly thankful. Our harvest is well over, our garner, though not full, are blessed with a reasonable abundance, and preparations are everywhere in progress for our usual fall exhibitions. Stock growers will trot out their best colts, cattle, sheep, pigs and poultry, while the products of the farm, the loom and the shop will gladden the eye and please the taste. Does the sun anywhere shine on a happier country than this?

YREKA COUNTY.—The *Union* says that grain raised on the dry land in Scott Valley, east of the river is being thrashed and is not turning out well.

BUTTE COUNTY.—LARGE YIELD OF GRAIN. The *Chico Enterprise*, Aug. 12th, says: "During a trip through the valley portions of our country last week, we were gratified to observe the strong evidences of prosperity visible at almost every farmers' premises. Stacks of grain in long rows were seen at every place, except where thrashing had been done, and at such places were found granaries filled to overflowing with wheat and barley. It is now demonstrated beyond a question that the average yield of the country will equal that of any year since it was established. The grain produced is remarkable for its plumpness and solidity. Notwithstanding the great fright which the dry season a few months since had produced among our farmers they have found that they have been blessed beyond their expectations."

Same paper of the 7th inst.,—Geo. F. Nourse distributed among our farmers over \$50,000 in coin. He is now loading twenty cars a day, or 200 tons, equivalent to 1,200 tons a week. The present week he will dispatch 1,500 tons, and will distribute over \$60,000 in money.

LAKE COUNTY.—The *Lower Lake Bulletin* Aug. 5th, says that Mr. Chas. Laumster has brought from St. Helena a steam thrashing machine, the first of this description that has visited Lake County. The machine is now operating upon the wheat stack at the upper end of the town or in the Magoon field, and is turning out about 1,500 bushels per day.

CROPS IN LAKE.—The farmers generally throughout the county, says the *Bulletin*, are busily engaged in harvesting their crops, as it occurs to us from the unusual activity displayed by some of them in the purchasing of the necessary machinery for that particular branch of industry. There being a large amount of grain planted last winter, we may look for a larger yield by one-half than has ever been produced in the county before in one season. In Big Valley, where the land is good, the yield of wheat per acre is quite large; from the prices that are now quoted in the market, the farmers will receive a handsome reward for their season's work.

FRUIT IN MARIN COUNTY.—A correspondent of the *Santa Rosa Democrat* gives us the following information in regard to fruit about Bodega: In some localities the White Winter Pearmain was a total failure

last year, and will probably be again this year. The yield is large but they are only good for feed for hogs. Red Junes are badly infected in Green Valley, and in some other orchards. Both this and last year the Yellow Newton, Yellow Bellflower and Hall have been infected to a greater or less extent. The fruit alone of the above varieties has been impaired, but in the extensive orchard of Mr. Tilton the leaf of some young Beauty of Kent trees shows mildew. Still if the mildew does not extend greatly the yield of apples will be abundant. Curl in the peach is badly developed, but the crop will be an average. The plum and pear crop will be full average. The grape crop was never more promising. Mr. Tilton's second crop of strawberries was so profuse that he is manufacturing a quantity of strawberry wine.

CONTRA COSTA COUNTY.—A correspondent of the *Bulletin*, of this city writes as follows from Pacheco: "There will be shipped from the port of Pacheco this season some 50,000 sacks of grain. In addition to this, the farmers will retain all they need for seed, feed and bread. Hay is not scarce. On the whole the dry season has not been as fearfully dry as was feared. The cool days in the month of May saved the country. One hot day in the month would have cut off the entire crop. In the dry season of '64—at this time corresponding—farmers were buying straw to keep up stock. A vast deal of fearful talk and complaint is staved off by this wholesome and sensible comparison. Deep plowing and legitimate work in some of the farms have produced the telling results of fair crops in a dry season."

MENDOCINO.—The *Democrat* says: It is estimated the grain crop of the Valley this year will amount to 25,000 or 30,000 bushels, wheat, oats and barley; the larger part being the former. This is a much bigger showing than ever before, much new land having been put in. So much attention is being paid to wool and sheep, and looking up range, as to create a sort of excitement in those particulars.

STANISLAUS WOOL.—*News of Modesto* Aug. 11th: The amount of wool produced in this county the present year exceeds the most sanguine expectations. We learn from the books of the station agent here that 1,601 bales have been forwarded by rail from this point up to the 1st of August. At 250 pounds per bale, a low estimate, this would give us 222,750 lbs. of wool shipped from little Stanislaus up to date, the present year.

CATTLE.—For the past three months, says the same paper, the monthly average of cattle shipped from Modesto, has numbered three thousand head. During the month of July one hundred and thirty eight car loads went from this point, the number of cattle in each car averaging twenty-three. Of this number twenty cars were consigned to San Francisco; one hundred to Mill city, and eighteen to other points. Large numbers of hogs have also been shipped hence to San Francisco, as well as several thousand sheep, during the same period.

SAN JOAQUIN—GRAIN BURNED.—*Stockton Republican*, Aug. 11th: B. Kenyon writes us from Bellota, in this county, that on the evening of the 2d instant a fire occurred on the ranch of Mr. Freshour, half a mile above Fisher's Bridge by which a stack of barley containing about 1,200 bushels was destroyed. It was the work of an incendiary.

MARIPOSA—HORSE DISEASE.—The disease which is now raging to a considerable extent among the horses in Stanislaus and Fresno counties has made its appearance in this county, says the *Mariposa Gazette*. Kirk Cathay, of Cathay's Valley, has lost several, including a fine stallion which he valued at \$700. Symptoms: The horses mope around, look sleepy, ears lop, and finally lie down and die. If any horseman has a cure for this disease we would be pleased to give the same through our columns for the public good.

CATTLE DISEASE IN NEVADA.—We hear reports of disease among the cattle in the Humboldt Meadows, in Nevada. The *Reno Crescent* says it is undetermined whether the disease is epidemic, or is occasioned by eating some poisonous herb. A Mr. Caldwell reported three of his best milch cows dead this morning, and a fourth in a dying condition, when he left home. Cattle are attacked with bloating and inflammation of the throat that speedily close the wind pipe and produces death by strangulation.

SANTA CLARA.—The grain crop.—*Independent* of Aug. 5th: The tendency of our farming people to cry before they are hurt has been demonstrated during the last season. The report was circulated

in the early part of the season that the grain crop was a total failure, and the most moderate of the croakers estimated the yield at not more than a quarter of a crop; but now as the wheat is being threshed, the fact cannot be disguised that the yield is far in excess of any of their calculations. Reports from all parts of the State confirm the statement that the grain crop is in excess of last year; that the grain is of better quality and worth more in the market.

BEEET SUGAR.—The Santa Clara Beet Sugar Company is not dead, but only waiting for a favorable season to consummate its arrangements. The seed already sown will yield enough for the sowing of a full crop should circumstances prove propitious.

EL DORADO FRUIT CROSSING THE SIERRAS. Already large quantities of fruit, says the *Placerville Republican*, are being transported to Nevada by the Placerville route, conveyed in four or six-horse Concord thorough-brace wagons. About nine days are required to make the trip. The farmer or fruit raiser disposes of his load on the road or at Virginia City, at from four to ten cents per pound, generally have a variety such as apples, pears, peaches, plums and grapes. Each load, after paying expenses, leaves him quite a margin for profit. On this route upwards of forty teams were engaged three months last year in transporting fruit raised in this vicinity. In all, more than 750 tons were delivered, for which about \$120 per ton was realized, and some \$90,000 distributed among the dry goods, grocery and lumber dealers.

GOOD FOR ONIONS.—The *Democrat* has three onions from the Spring Garden Ranch three miles East of Placerville, produced from the seed this year, the aggregate weight of which is seven, or 2½ pounds each. The same piece of ground produced three years ago, eight tons of onions on three-quarters of an acre.

SAN BERNARDINO.—*Guardian*, Aug. 5th: Grain threshers to the aggregate capacity of fifty horse power will be engaged in this valley for the period of about two months, in threshing the grain crop of this season. A great many of our farmers have their stubble fields in corn since harvest. Those who expect grain to command an exorbitant price in this section, the ensuing season will be disappointed. The wheat crop is very good, and the prospects for a large crop of corn, are flattering.

OREGON.

BLACKBERRIES.—Some paper says: Wild blackberries are very abundant the present season. The season for them is about over in the valleys, but they are just in their prime and very plenty in the mountains. A party who visited Silver Creek last week, found more berries than they could pick, and more rain than they bargained for. They came home with bad colds and many cans of preserved berries.

VALUABLE SHEEP KILLED.—Mr. Thomas Cross recently had four fine imported Leicester sheep killed by dogs. They were on his farm near Salem, and were valued at about \$250 each.

WOOL.—It is estimated by the *Ensign* that the wool product of Douglas this year has yielded \$120,000 in gold coin. As there are many sheep owners in the county, this money has been pretty widely distributed.

THE WHEAT CROPS AND THE WEATHER.—The *Willamette Farmer* says: The remarks which are constantly coming from the lips of our people in regard to the weather, and its effects on the wheat crop, show that they realize the importance of this production of the labor of our farmers to the necessities and business of the State. It is true that the season, until some days past, has been dry—that, to some extent, this dry weather had injured the late-sown wheat,—but, as yet, no injury to the crop has been experienced by the late cloudy weather to the early-sown wheat, while it has been of decided advantage to that which was late sown. Our business men who make profits on the wheat crop, are alarmed without cause. The wheat has not been injured by rain, nor do we believe it will be. Appearances are decidedly in favor of a larger crop of wheat in Oregon than the present year than there was in the last.

The *Farmer* offers a word of caution and encouragement to farmers in Oregon, as follows: When your wheat is ripe, and cut, secure it from rains, which may come when you are not expecting them. And a word of encouragement. Wheat has failed, to a great extent, in California, the present season—which fact renders it certain that Oregon wheat will bring good prices, and none should be lost by neglect or carelessness. [We can assure our neighbors of Oregon that the shortness of crops in Eu-

rope will have much more to do with the price of wheat in San Francisco than any deficiency of our own production.]

OREGON has a large and prosperous harvest this year, and her products will tell well. That State is rapidly increasing her population, her cultivation, her stock-raising, and her crops—of this we shall soon be made more sensible as railroad communication opens up her resources to us.

VALUABLE HORSE SOLD.—Pat Smith, of Portland, according to the *Willamette Farmer* has sold his trotting mare "Oregon Nellie" to J. B. Hinkle, of Petaluma, in this State, for \$3,500. Nellie has, carried off the first prizes for trotting at Oregon State Fairs.

MONTANA.

THE HARVEST.—From all the agricultural portions of Montana Territory, we hear, says the *Helena Gazette*, the most encouraging accounts of the condition of the crops. The wheat is about matured and safe from frost; the amount raised this year is much larger than any year previous, and it will be harvested within the next two weeks. The grain will be of superior quality, and we expect a much better quality of flour, this year, than usual. Other crops are very fine. We regard this encouraging to all parties in the Territory. The farmers will all have enough for their own use and some to spare. Henceforth, Montana—so far as breadstuffs and vegetables are concerned—may be considered as a self supporting country. Hay harvest is nearly over in many parts of the country, and the yield and quality is fully equal to any previous season. We think with the favorable results of the farming interest of this season, the people should be particularly thankful.

FLOWERING PLANTS AT A HIGH ALTITUDE.—The *Miner*, published in Monitor district, Montana, says:—At an altitude bordering upon 8,000 feet, Monitor can show collections of as fine plants growing in the open air as will be found in almost any place. Among the fine flowers we may mention the Tuberose, Gladiola in great variety, Verbenas, Geraniums, Mesembryanthemum, Chrysanthums, Balsams, Zinias, Japan Lilies, and others too numerous to mention. Many a cottage in our town is made cheerful by these silent graces of nature. This, the first real effort at outdoor embellishment, having met with so good results, we shall expect to see floriculture greatly extended the coming season.

MADISON COUNTY.—The *Gazette* Aug. 7th, says: The wheat crop in Madison county is immense, and just ripening, and could it be viewed by intelligent farmers from the States, would satisfy them of the adaptability of the soil for this and all kindred crops. Wheat growing on John Redfern's ranch will go eighty bushels to the acre, and potatoes so large and plenty as to be beyond comparison with similar crops in the Atlantic States. The fact is no country surpasses the one we are describing for farming. It will take all the fall season to harvest and thresh the wheat and other grain in Madison county. A first class flouring mill is to be completed in season to go into operation this fall.

COLORADO.

CROP PROSPECTS.—The *Colorado Tribune* of July 26th says: The present prospect for an average yield of Colorado products is fair, although the season has been an exceptionable one in many respects. Less snow fell throughout the Snowy Range, during the past winter, than in any year since the Territory has been occupied; as the consequence, the streams have not furnished their usual supply of water, and many small creeks are entirely dry. To supplement this, less rain fell through the spring, thus making the country entirely dependent on irrigation, which, while it may be disastrous to some who have placed no dependence on an artificial supply, will show the results of irrigation on a broad scale, and in its true light. The spring grains are looking well, and the few fields that have thus far been harvested, show a full yield. Potatoes are just coming into market, and promise to be of as good quality, and in a quantity largely exceeding the crop of any previous year.

Then as a whole we feel thoroughly assured from actual observation that the farmers, ranchmen, fruit growers and stock raisers of Colorado will make a good showing for the season of 1871.

There have been large accessions to the purely agricultural interests of Colorado, both of colonies and individual emigration; the larger colonies have done good work in enlarging the area of agricultural operations and diversifying crops.

PISCICULTURE.

Trout Culture—Practical Suggestions.

A correspondent of the *Practical Farmer*, who has taken great interest in the matter of fish culture, and had large experience and observations, contributes the following practical information, which will be read with interest by such, in this State, as are already engaged in fish culture, and may possibly serve as an inducement for a more general introduction of this useful branch of industry. We copy as follows:—

By inquiry, by advertising, by travel and observation, in search of a suitable location, I came in contact with many persons who had commenced trout raising; but most of them had commenced at the wrong end. They had built their ponds, No. 1, No. 2, and No. 3, generally large and shallow, while they as yet had no fish in them, no breeders, no small fry, no eggs. I found many places where more or less trout had been put into springs. Some of those had been fed and some had not. Those that had been fed were round bodied and fat; those not fed were thin, lank and slab-sided. In several springs the fish had deformed heads—they might appropriately be called "swell-heads." Possibly their condition might have been the result of running, when alarmed, against the stone sides of the springs. This was noticed in springs where little space was given to the fish, and small depth of water—say two feet wide and six feet long and one foot deep—and where no covers were furnished to afford hiding places. So much for disgrisement.

I will now give my ideas of the proper and economical way for farmers, or better, farmers' wives, to raise fish;—for I hold it is woman's business to raise fish, quite as much as to raise poultry or make butter.

If you have a spring that is constant, not fouling in dry weather, measure its flow per minute. This can readily be done by damming up the outlet and putting in a spout, so as to set a bucket under it. Take two buckets of known size, and measure the flow for one minute. It is well to do this several times, to be certain of the correctness. This method will answer for springs flowing 200 gallons per minute. For larger flow, resort must be had to larger vessels, or to the methods of gauging the flow of water, given in works upon hydraulics.

It may be stated, approximately, that 100 gallons per minute will suffice for turning out 2,000 trout per annum, weighing from three-quarters of a pound to a pound each, when three years old, and worth now at the city restaurants one dollar per pound.

If your spring yields 25 gallons per minute, you have water enough for a crop of 500 trout per annum—or say 400 pounds.

Now, to make a beginning, and not to spend money before it is necessary—suppose you wish to raise 2,000 trout per annum:—you must purchase your eggs, say 3,000—allowing fully for loss. These will cost, at \$10 per thousand, \$30. Make a box of boards or plank, four feet long, twelve or fifteen inches wide, with sides six or seven inches high, dividing the bottom into four apartments, say one foot square. Each apartment will accommodate 1,500 eggs.

Cover the bottom of two of these divisions with clean fine dark colored gravel, one inch thick, and place the trough so as to have a gentle flow of water lengthwise through it—about as much as would flow through a three-quarter inch pipe, with 3 or 4 inches head. Pass the water through a filter, eight inches square, covered with three thicknesses of flannel. Clean this occasionally, if necessary. Place this trough in the spring-house, if so situated as to allow the water to be brought into it—or in a little house, 4x6 feet, boarded up for protection—giving the trough a couple of inches fall.

The above includes all the necessary expenses until the trout are three months old, when they should have a larger space than the hatching trough—say a space 10 feet long, 3 feet wide, and water 6 inches deep at one end and 2 feet at the other, where they can remain for the next year. Order your eggs in September or October. Purchase and read carefully Seth Green's book on trout culture; visit some trouteries in operation, and study and imitate nature.

It is stated that the efforts at raising fish in South Carolina have generally been failures, as the experiments have been conducted without system.

How the Shad Came to California.

The N. Y. Rochester *Union* tells us, in the following interesting manner, how the first supply of young shad lately came overland to this coast:

THE NATIONAL FISH.—Seth Green believes in a universal fish as well as a universal flag, and the shad of the Hudson river now have, through his efforts, their brothers, sisters and cousins wiggling about in the waters of the Sacramento, in joyous anticipation of the time when they will be grown up fish, and swim in their own gravy upon the gold hunter's tables. The work was attended with great difficulty. The transportation must be undertaken in summer, and the fish must leave the Hudson on the day of hatching, with only its natural food for four days. It would require six or seven days to go through. The character of the water for a considerable distance on the route was known to be such that no fish could live in it, and it was by no means certain that any of the water on the plains and mountains would agree with the shad. The obstacles were many, but by great care and foresight they were overcome, and the fish, or at least 90 per cent. of them, safely deposited in the Sacramento river. These fish, about 20,000 in number, were in six tin cans, each containing about ten gallons. They were placed in the baggage car of the train, and were accessible at all times to Mr. Green, who watched them closely, changing the water several times each day, as the temperature and other circumstances seemed to require. At each watering station a test had to be made of the water before taking it. A few fish were put into a glass of it, and, under the practical eye of Mr. Green it was soon discovered what would be the result of its use. At Omaha was found the first water that would be fatal to the fish. Preparations had to be made, then, to go on five hundred miles without taking water by the way. A small stock of water was procured from the tanks, and this, with ice, had to carry the fish over the plains. The mercury stood in the car for days at 101. Nothing but agitation of the water and the free use of ice saved the fish. At the end of the fourth day of the trip, the natural sac attached to the fish to supply it with food was consumed, and for two days there was apparently nothing for the little creatures to eat. But they survived, and only showed a leanness.

BLACK BASS vs. PICKEREL.—Most of the ponds and lakelets in New England are now almost barren of any kind of fish save the voracious pickerel, whose wolf-like habits we noticed at length a few weeks since. This fact is leading some of our more thoughtful pisciculturists to look around for some kind of fish that will "clean out" the pickerel, and allow of the culture of more useful inhabitants for the inland waters of those States. Failing to find any fish which will fully accomplish the end desired, Mr. E. S. Woodford, of West Winstead, Conn., suggests the Black Bass as the only good fish which can be successfully propagated in the same stream where the pickerel abounds, and suggests that efforts should be made to thus introduce them.

WATER vs. LAND TILLAGE.—Seth Green, the noted pisciculturist, says: "Expend one-thousandth part of the sum spent in tilling the land in tilling the water, and fish may be sold at two cents per pound. I have contracted to furnish our commissioners with one thousand or more bass for the next season. The selectmen, in towns where they wish ponds stocked, make application to the commissioners, who order the necessary number to be placed in them. Fifty to two hundred fish that will spawn the next season will, in a few years, produce an incredible number, and ponds that have heretofore produced only a scanty supply of pickerel will furnish a large amount of delicious and wholesome food."

EXPORT statistics show that this city received from the Columbia River, Oregon, during the year 1869, 22,130 cases of canned salmon. Two dozen cans to the case would amount to 531,120 cans shipped to this city alone. A considerable portion of this, however, was forwarded to New York. The estimate of persons intimately acquainted with the business is that the product of canned salmon for the year 1869 would reach an aggregate of 800,000 cans.

FLORICULTURE.

Improve the Flowers.

Every horticulturist, says Tilton's *Journal*, should have a small experiment garden, where he should try his skill at the production of new varieties of flowers, or in the improvement of old ones. We need more enthusiasm in the cultivation of flowers and less of the spirit of money getting—especially here in California. It should be the aim of every person engaged in the business of horticulture to add at least one marked improvement to the list of our shrubs or flowers. Considering the success which has attended such efforts on the part of those who have really set themselves to work in that direction, there is the highest encouragement for perseverance on the part of amateurs everywhere.

Observe what a wonderful progress has been made in improving the rose. The verbenas and fuchsias have also each been greatly improved. The tulip mania of years ago was not without its results. The gladiolus "has apparently no limit in its march to glory." We hear of a single individual who has added some thirty or more varieties to this showy flower.

There are scores of flowers in our fields and forests—especially in the fields and forests of California—which offer ample promise of reward to the care and patience of the skillful florist. Who will say that the dandelion may not be lifted from its humble position and made to rank with the dahlia in its magnificence, which had perhaps nearly or quite as humble an origin as that now neglected wild flower named.

A NEW HARDY PRIMROSE.—Some ten years since, says the *Florist and Pomologist*, Mr. Fortane, of London, England, obtained in Japan several specimens of a beautiful, hardy primrose, which he endeavored to take with him to England, but they all died on the journey. Ever since Mr. F. has been endeavoring to secure one of these lovely plants. Even the seeds that were subsequently sent him lost their germinating powers during the long voyage through such a variety of climates. Last summer, however, a seed has been germinated, and "our garden," says the journal named, "will now be able to secure a perfectly new, thoroughly hardy and exquisitely lovely primrose."

It has been named the *Primula Japonica*. "Of its hardiness there can be no doubt, since the plants which have been standing all the winter fully exposed in the trying atmosphere of London, are perfectly healthy, and came into bloom about the middle of May—some two or three weeks later than the plants which had been potted and flowered under glass."

THE HORTICULTURAL DEPARTMENT AT THE PAVILION exhibits a most commendable degree of taste and industry, and is the theme of universal commendation. It forms one of the main attractions at the Fair. The exhibition of foliage plants shows that a taste for that interesting and really beautiful branch of horticulture is on the increase among our citizens, and we trust the present exhibition will serve to still further stimulate this taste.

The principal exhibitors of plants and flowers are E. L. Reimer, Wm. Meyer & Co., R. B. Woodward, F. A. Miller, W. Robertson, John Hampton, of Oakland; E. W. Burr, Jos. Putzer, Dr. Stevens and C. L. Kellogg (pine cones and foliage), C. Allen (wire hanging baskets and flower stands), and Jas. Smith (rustic hanging baskets). J. S. Finch is also a contributor, showing a large ranunc plant. D. L. Perkins exhibits his garden seeds and vegetables in this department. We shall refer to this interesting portion of the exhibition further in a future issue.

Put Flowers on the Table.

Set flowers on your table—a whole nosegay if you can get it, or put two or three, or a single flower, a rose, a pink, nay, even a daisy. Bring a few daisies and buttercups from your last field work, and keep them alive in a little water; aye, preserve but a bunch of clover, or a handful of flowering grass, one of the most elegant as well as cheap of nature's productions, and you have something on your table that reminds you of the beauties of God's creation, and gives you a link with the poets and sages that have done it most honor. Put but a rose, or a lily, or a violet on your table, and you and Lord Bacon have a custom in common; for that great and wise man was in the habit of having flowers in season set upon his table morning, we believe, noon and night—that is to say, at all his meals; for dinner in his time was taken at noon; and why should he not have flowers at all his meals, seeing that they were growing all day? Now, here is a fashion that shall last you forever, if you please, never changing with silks, and velvets and silver forks, nor dependent upon caprice, or some fine gentleman or lady who have nothing but caprice and changes to give them importance and a sensation. Flowers on the morning table are especially suitable to the time. They look like the happy waking of the creation; they bring the perfumes of the breath of nature into your room; they seem the representative and embodiment of the very smiles of your home, the graces of its good-morrow; proofs that some intellectual beauties are in ourselves, or those about us. Some Aurora (if we are so lucky as to have such a companion), helping to strew our life with sweets, or in ourselves some masculine wilderness not unworthy to possess such a companion or unlikely to gain her.

LEIGH HUNT.

A DESIRABLE SHADE TREE.—The Nevada *Gazette*, speaks of a polonia plant now growing at Mr. Jacoby's place on the Nocomah road a short distance from Memphis, Tenn., which produces leaves 34 inches across and 32 inches in length. The tree was brought from South America, of which it is a native. It has been planted there only a few months, and is now fourteen feet high and covered with these enormous leaves. For purposes of shade, this tree is unrivaled. It is said that the foliage not only intercepts the heat but absorbs it, and that a forest of them actually makes the atmosphere cool on the hottest day. Such a tree would be a valuable acquisition for California.

HINTS ABOUT FLOWERS.—House plants ought to be stimulated gently once or twice a week. Rain water, so refreshing to summer flowers, always contain ammonia, which also abounds in all liquid manures. If you take an ounce of pulverized carbonate of ammonia, dissolved in one gallon of water, it will make spring water even more stimulating to your plants than rain water. If you water your plants once in two weeks with guano water (one tablespoonful to a pail of water), they will grow more thriftily. Chicken manures dissolved in water is excellent. Always keep the soil in your flower-pots loose. A common hair pin used daily will stir the earth sufficiently.

WASH FOR PLANTS.—The *Florist and Pomologist* says, that the following is strongly recommended for mildew, scale, red spider, etc., upon greenhouse plants and out-of-door shrubs and trees: Flour of sulphur two ounces, worked to a paste with a little water; sal soda, two ounces; cut tobacco, half an ounce; quicklime the size of a duck's egg; water one gallon. Boil together and stir for fifteen minutes, and let cool and settle. In use it is diluted according to the character of the plants, which are to be syringed with water after the application.

PURITANS' FLOWERS.—"The old-fashioned flowers in the gardens of New England—blue-bells, crocuses, primroses, foxglove and many others, are wild flowers on English soil. There is something very touching and pretty in this fact, that the Puritans should have carried their field and hedge flowers, and nurtured them in their gardens, until, to us, they seem entirely the product of cultivation."

RED SPIDERS ON FUCHSIAS.—A correspondent of the *American Agriculturist* says: "Fill a barrel nearly full of water and slake in it about a quarter of a peck of lime, and let it stand until perfectly clear. Hold the plants affected in the water (bottom up) for about five or ten minutes, then wash them with pure water."

USEFUL INFORMATION.

Fallacies in Building.

To suppose that timber, growing in the woods or floating in water to-day, can be placed in a building next week, and stay where it is put.

That if such a timber be used, the walls will not crack.

That the base, window panels, casings, etc., made of such timber will not part company with the floors from one-fourth to three-fourths of an inch in less than a year, and that the builder put unseasoned lumber in the latter.

That kiln dried lumber is as good as lumber thoroughly air seasoned, or that the atmosphere has no influence upon it.

That a joint once tight will always remain so.

That if trimmings be put up before plastering, or trimmed on green walls, that putty will not be in great demand when they dry.

That hot air from a furnace will not start and open every piece of wood-work with which it comes in contact nine times out of ten.

That if partitions be not properly braced, bridged and secured at angles, that plastering will not crack.

That ceilings are less likely to crack if cross-furred.

That a pailful of lime to a cart-load of sand will make mortar of any practical use either for plastering or brick work.

That it injures mortar by mixing it some time before using it, or that if mixed one day and applied the next it won't blister and crack.

That a cement roof, so soft that it fills the leaders in summer, or so hard it cracks in winter, will not occasion the want of new ceilings in a little time.

That a "botch" can build as good a building as a thorough mechanic.

That in all cases money is saved by contracting with the lowest bidder.

That all knowledge in relation to building is embodied in every one who signs "Architect" after his name.

That architects and builders never "lay in together," and owners never get "shone" through that little arrangement.

That architects, as a rule, get no other commission on buildings except the traditional "five per cent. on the cost."

That builders always carry out plans and specifications to the letter.

That there are no high-minded conscientious, competent architects, and no honest reliable builders; and that either class does not bear a reputation equal to that of any other business men.

That a builder does not require an extended theoretical, nor an architect as extended a practical knowledge, to be successful.

That no builder can be a successful architect, or that a practical architect cannot be a successful builder.

That you, reader, without practical knowledge, know a great deal more about the details of a house than of a locomotive.

AN ANCIENT OUTLET TO LAKE SUPERIOR has been discovered by the Michigan State Geological Survey. This outlet is unmistakable in its character and consists of a long deep valley or depression, what we would call in California a cañon, bordered with high bluffs, and is continuous from the south shore of Lake Superior to Green Bay in Lake Michigan. The practicability of a ship canal is suggested by this discovery, and surveys will no doubt soon be made to that end. Should it be found practicable, it will greatly shorten the distance between the ports on the two lakes.

WATERING TEAMS OFTEN.—Horses and oxen at work need water often. The plowman carries his jug of water, or leaves his team to rest while he goes to the house for a drink. But the team works harder than the driver, and probably needs drink as often; yet many teams are taken out early in the field, where there is no water except in the driver's jug, and work five or six hours before they can get a drop. Is it any wonder that they are injured by drinking too much when they are led to the spring at noon or evening.

RAIN IN COUNTRY AND CITY.—Country rain and city rain, when examined chemically, affords by comparison, some interesting scientific results as to the purity and impurity of the atmosphere. Dr. Angus Smith, in the journal of the Scottish Meteorological Society says that the rain of towns where much coal is burned is easily

distinguished, by common observation even, from country rain. The one is clear, and colorless, the other black and muddy; the one is tasteless, the other tastes of soot; the one is neutral, the other is acid, and corrodes metals and even stones and brick, destroying mortar rapidly, and readily spoiling many colors. As the rain washes the air, which is found to be purer after a rain-fall, the impurity which goes into the water can, by chemical experiment, easily be taken out; and thus by this natural washing of the air chemists are enabled to ascertain the comparative healthiness of different localities, a pure atmosphere being so essential an element of the good health of a community.

A POPULAR ERROR CORRECTED.—The prevailing idea entertained by the inhabitants of temperate climates as to the exceedingly gorgeous nature of tropical vegetation is far from correct. Mr. Wallace, who lived for years in the East Indies, says that in the most luxuriant parts of the tropics flowers are less effective in lending color to the landscape, than in temperate climates. While there are many grand and beautiful tropical plants, it must be remembered that the proportion they bear to the mass of the vegetation is very small.

PLANT GROWTH IN WARM AND COLD CLIMATES.—The active principles of plants, according to recent investigations, are more concentrated in the leaves of plants grown in cold climates where the vegetation is less vigorous, than in warm climates. In illustration the well-known facts are cited, that tobacco grown in northern regions is stronger than the same plant raised in mild or tropical regions, and celery, it is stated, is affected in the same way by the influences of temperature and moisture.

TO KEEP FLIES FROM HORSES.—One of the simplest means we have ever heard of keeping flies from annoying horses or cattle, is to take a bunch of smart weed, bruise it so as to cause the juice to exude. Rub the animal thoroughly with this bunch of bruised weed—especially upon his neck, legs and ears. Neither flies or other insects will trouble him for at least 24 hours. If preferred an infusion may be made by steeping the weed, and applying the liquid with a sponge.

A NEW RESPIRATOR FOR FIREMEN.—Prof. Tyndal, the celebrated scientist, it is said, has perfected a new respirator for firemen, in which the solid particles of the densest smoke are arrested by films of cotton-wood wetted with glycerine and the most repugnant gas by layers of charcoal. By these simple means, firemen can remain within burning buildings for upwards of half an hour at a time with safety and comfort so far as respiration is concerned.

SPONGE PAPER is a new article of manufacture recently patented into France. It is made of evenly and finely divided sponge added to ordinary paper pulp, and worked as in the common paper making apparatus, into sheets of different thicknesses. It is said to have all the peculiarities of sponge, absorbing water readily, and remaining moist a long time. It has been used as dressing for wounds with considerable advantage and is capable of several important technical applications.

A HUGE ELECTRO-MAGNET.—Wallace & Sons, of Ansonia, Connecticut, have recently delivered to the Stevens Institute of Technology, at Philadelphia, a magnet which weighs about 1,600 pounds. The coils are wound on eight brass spools; about 400 pounds of copper wire are wound on these spools, which are of course split and filled in with vulcanite. The lifting force of this magnet is estimated at between 30 and 50 tons. It is five times as powerful as the one used by Faraday and Tyndall in their famous researches.

COOLING BY FANNING.—The cooling effect of air blown upon the surface of the body is due mainly to the carrying away of heat by the increased amount of evaporation thereby produced. In this way the face may be sensibly cooled by forcing against it air at a temperature even above blood heat.

STING OF INSECTS.—An Indiana correspondent writes thus: Tell your readers that a few drops of coal oil dropped on parts stung by bees, wasps or hornets will give instant relief.

GOOD HEALTH.

Poisonous Flannel, Again.

EDITORS PRESS:—My attention has been called to an article in your issue of the 5th inst., on the poisonous quality of red flannel, and as a little circumstance connected with myself seems to fully confirm what you then said, I thought it might be of service to others to give it to you for publication.

On the first of last April my wife was taken suddenly sick, after washing; a strange feeling came upon her which she could not account for, and at the same time her arms, from the elbows down, were covered with a very singular eruption, of a scarlet color. Her neck also and from the knees down, were affected in the same manner. No other portion of the body had a single sign of eruption upon it.

She was taken sick the day following her washing, and as luck would have it, a physician called at our house and I directed his attention to this eruption upon my wife. He looked long and carefully upon the case and then remarked that it was something that he had never seen before in a practice of fifteen years. A number of our friends called, but it was new to them all.

On reading the article in your paper above referred to the whole matter was made clear to my mind. Being in the city a short time previous I bought some red flannel from which to cut letters for a sign, and having about enough left to make a pair of drawers, I proposed to my wife to make them. She did so, and after they were done I wore them, during which time I was troubled with an unusual itching, which, at the time, I attributed to fleas, but could never find any upon my person. I finally cast the drawers aside for washing, which operation was attended with the result already stated.

After she had washed them she put them in the scald and the color was immediately changed several degrees darker. Having but one pair, I thought I would buy enough more to make another for a change. The latter have been washed several times, and are just as bright after repeated washings as they were when first made; they have not shrunk in the least, whilst the first pair are perfectly useless.

Now I am perfectly satisfied that the mystery of my wife's sickness is solved; her symptoms were the same as those of the woman spoken of in the PRESS, who washed a similar garment. The reason of her breaking out upon her shoulders and neck, and below the knees, I attribute to the poison being conveyed to those parts by her hands, in dressing. The instant I read that article, I was satisfied that the poison was in the flannel. The two pieces of flannel were bought at different places.

D. L. PERKINS.
Emmaton, Sherman Island, Aug. 7th.

How to Give Children an Appetite.

Give children an abundance of out-door exercise, fun, and frolic; make them regular in their habits, and feed them only upon plain, nourishing food, and they will seldom, if ever, complain of a lack of appetite. But keep them overtaken in school, confined closely to the house the rest of the time, frowning down every attempt at play; feed them upon rich or good-seasoned food, candies, nuts, etc., allow them to eat between meals and late in the evening, and you need not expect them to have good appetites. On the contrary, you may expect they will be pale, weak, and sickly.

Don't cram them with food when they don't want, or have no appetite for it—such a course is slow murder. If they have no appetites, encourage, and, if need be, command them to take exercise in the open air. Don't allow them to study too much, and especially keep them from reading the exciting light literature which so much abounds in our book-stores and circulating libraries. In addition to securing exercise for the children as above, change their diet somewhat; especially if they have been eating fine flour, change to coarse or Graham flour.

Sickness is the most expensive nuisance on the face of the globe. There may be instances where it makes people or children better, but generally it makes them selfish, sad, misanthropic, nervous, mean, and miserable. The way to make children happy and good is to keep them well.—*Boston Journal of Chemistry.*

What and When to Eat.

We eat, says the *Journal of Health*, to keep warm and to sustain strength, and all articles of food have those two elements in varying proportion. Oils, tallow and whale blubber are almost wholly of the warming elements; hence in Greenland, where the thermometer is many degrees below zero, and a great deal of heat is required, a native will drink half a dozen gallons of oil every day, or eat ten pounds of tallow. In the hottest climates of the world the inhabitants live to a great extent on fruits and vegetables, which have but very little of the heating qualities. In our climate, which is between the two, meats, vegetables and fruits are eaten all the year round; but if eaten judiciously, if eaten according to the season—more of fruits and vegetables in summer and less of meats and fats—an incalculable amount of sickness would be prevented every year. We would think a man deranged who should keep as large fires burning in his house in summer as in winter, and yet we all persist in eating meats and fats and butter all through the summer. Meats and butter are on our tables three times a day, when in reality they ought to be sparingly used during the summer months, at least by the young, the old and the feeble, and by all who are most of the time in-doors, or who have no active employment. For the classes just named, a very appropriate diet for the summer would be as follows:

Breakfast—Cold bread and butter, a slice of cold meat, or in its place a couple of eggs, or a saucer of berries or stewed fruit, without milk, cream or sugar. The same for dinner, with one vegetable; no other desert. For supper some cold bread and butter and a cup of hot drink, and nothing else; nothing whatever between meals. So far from starving on such a diet, the class of persons above named would thrive on it, would grow stronger, would have more bodily vigor, more mental elasticity, and a greater flow of animal spirits, and for the reason that few would eat too much; there would be nothing to over-tempt the appetite, hence the stomach would not be over-worked; what work it did perform would be well done; the blood made would be pure, life-giving and energizing. Any man of ordinary intelligence and observation, who will give a fair trial to the above system of feeding, will scarcely fail to be convinced of its value within a week after he begins it.

How to Cure Stammering.

Lute A Taylor, editor of the *La Crosse*, (Wis.) *Leader*, who has been an inveterate stammerer, writes as follows about the way to cure the habit: "No stammering person ever found any difficulty in singing. The reason of this is that by observing the measure of the music—by keeping time—the organs of speech are kept in such position that enunciation is easy. Apply the same rule to reading or speech, and the same result will follow. Let the stammerer take a sentence, say this one—'Leander swam the Hellespont'—and pronounce it by syllables, scan it, keeping time with his finger if necessary, letting each syllable occupy the same time, thus, Le—an—der—swam—the—Hel—les—pont, and he will not stammer. Let him pronounce slowly at first, then faster but still keeping time, keeping time with words instead of syllables, and he will be surprised to find, that, by very little practice, he will read without stammering, and nearly as rapidly as persons ordinarily talk or read. Then practice this in reading and conversation until the habit is broken up. Perseverance and attention is all that is necessary to perform a perfect cure."

Beef Tea.

Many persons believe that beef tea is very nourishing, and that it is an excellent strengthener for people of weak health. This is a mistake. Some few practitioners and chemists have long been aware of the fact, and now their view is confirmed by Dr. Marcet. There is no nourishment in beef tea. Mixed with solid food, it imparts a relish which promotes digestion; and the best that can be mixed therewith is the beef from which it was made, reduced to a powder. In two, at least, of the London hospitals the mixture of powdered beef with the beef tea has long been practiced; and there the patients get strong on a beef-tea diet. It is worth remembering, too, that the objections to the use of beef tea apply equally to the preparation described as Extract of Meat, with the further disadvantage that the extract is always stale.—*Chambers' Journal.*



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SAN FRANCISCO:

Saturday, August 19, 1871.

Our Weekly Crop.

The harvest being nearly completed our fore-
man in casting about for the most improved
machinery to commence preparations for the
next year's crop, has just brought to the en-
trance of our grounds a new Combined Reaper
and Broad Cast Sower, with which we expect to
do some good work this fall. And now after tak-
ing a look at the progress of Silk Culture in
Utah, we drop in as usual to consult our library
of Scientific and Mechanical Progress, and ex-
amine a New Mechanical Movement. We also
find an interesting letter from our New York
Editor about the Hell Gate Obstructions; learn
about a New Mode of Constructing Flour Mills
and hear of a Novel Immigration Scheme.

Returning again to the farm, we find that
arrangements are being made to institute a
Grange of the new organization of Patrons of
Husbandry which is exciting so much interest
in other parts of the country. After viewing
the Celebrated Trotter, which we have just
added to our Stud, we walk into the Garden to
examine the manner of Layering Cucumbers
and Squash Vines, after which we take our
usual weekly retrospect of Agricultural Progress
on the Pacific Coast. This done we listen to
some interesting Practical Suggestions on Trout
Culture and other piscatorial matters, visit the
Flower Garden, gather up some Useful Infor-
mation, and spend a short time in consultation
with the Doctor and Mr. Perkins.

We next pay a visit to the Mechanics' In-
stitute Exhibition where we note quite a number
of items of interest, and to which we shall re-
turn again next week. Patents and Inventions
next call our attention, and after a short chat
with some of our correspondents, we pass to
consider some of The Wonders of California.
We take a peep into the Bridal Chamber and
then naturally hasten to join in Home Circle,
where we find A Farmer's Wife enjoying a So-
cial Chat with a City Lady, from which we get
some valuable hints before meeting the Young
Folks and having our usual chat about Domest-
ic Economy and such matters.

We close up the day with a ride upon a Cali-
fornia Improved Road Steamer, in company
with Mr. Hyde, the inventor, and Mr. Hanscom
the builder, during which some wonderful de-
velopments are made with regard to the possi-
bility of applying steam to our common roads.

THE LAKE TAHOE WATER WORKS.—Col.,
Von Schmidt will commence work on the
Lake Tahoe Water Works tunnel imme-
diately with forty men at each end. Three
hundred men will be set to work as soon
as practicable.

**THE canal of the San Joaquin and
Kings River Canal Company** is completed
for fifteen miles from its head at the bend
of the San Joaquin.

**THE editor of the California Horticultur-
ist** says the poppy requires much cultiva-
tion, and thinks that opium cannot be pro-
duced with profit in California.

The Mechanics' Fair.

The arrangements of exhibits at the Pa-
vilion were perfected early in the week,
and the exhibition is now complete. Every
available foot of space is occupied, and the
exhibition, as a whole, is universally pro-
nounced superior to any which has pre-
ceded it. More taste is displayed both in
the general decorations by the manage-
ment, and by the exhibitors in their indi-
vidual arrangements. Some idea of the
former may be realized from the fact that
about *two tons weight* of flags alone are em-
ployed—of course those of all nations are
shown, and generally in great profusion.
The large fountain is materially improved,
and a smaller one has been placed in the
Horticultural Department from which jets
and sprays of cologne are constantly play-
ing, and adding their delicious fragrance
to the perfume of numerous flowers eleg-
antly arranged in beds and parterres, di-
vided by avenues and walks, and relieved
by statuary, arbors and various other orna-
mental devices. The fountain is operated
by machinery, of course,—one of Knowles'
patent hose pumps being employed, and
connected with the driving power of the
main engine. The attendance both day
and evening is very large, and the receipts
in proportion.

The Art Gallery

Is well filled, and the display of paintings,
statuary, photographs, drawings, etc., is
very fine. But the chief attraction at that
end of the Pavilion appears to be the re-
markable and unique exhibition of

Japanese Products.

Four weeks were occupied in the ar-
rangement of this department. The weight
of goods, as per ship's manifest was 66 tons,
embracing almost every variety of articles
manufactured in the Orient.

The Japanese goods have been collected,
forwarded and put up under the direction
of Mr. H. D. Dunn, who was sent out as a
special agent by the Institute. Several
Japanese, who speak our language quite
well, accompanied the goods, and are in
constant attendance in that department,
and add interest to this curious exhibit by
their readiness to answer questions with
regard to the articles, propounded by visit-
ors. This display is by far the largest of
Japanese goods ever before made outside of
that kingdom.

Chinese Products.

In the same room are several large cases
of China goods, fancy articles, etc. This
exhibit has been collected and forwarded
through the personal exertions of Dr. D.
J. McGowan, of Shanghai, China, a gen-
tleman well known to many of our citizens,
and who spent several months here some
three or four years ago, and lectured on
"China and Japan." One case of goods
in this collection is chiefly made up of a
fine assortment of elegant Chinese silks of
all colors, and much heavier than similar
goods manufactured in Europe. There is
also a varied assortment of ornaments,
many of exquisite workmanship, taste and
art.

Many of the articles from China and
Japan are superior to any which have ever
before been allowed to leave those coun-
tries. Those forwarded by Dr. McGowan,
and which were consigned to N. D. Arnot,
Esq., will be sold at the close of the Exhi-
bition, and we presume some of our
wealthy citizens have already got their
eyes upon choice sets of ware, rich dresses
for their wives, rich cabinet work or some
other rare specimens of oriental skill and
industry.

The Mechanical Exhibit

Is not so full as we have seen it in the
past, but it is good and suggestive of
progress, nevertheless.

HALLIDIE'S TRAMWAY, is one of the nov-
elties in this line, and crowds of curious
visitors are attracted to witness its work-

ings. One of these tramways is now in
operation at White Pine, conveying ore
several miles from the mine to the mill
where it is crushed.

THE PACIFIC ROLLING MILLS make a fine
display and give evidence of progress in a
most important branch of industry.

ROCK DRILL.—Dr. A. Blatchly is there
with his improved Rock Drill. He has
improved a tunnel in which he exhibits
the mode of working his drill in a confined
space, and shows a curious and ingenious
device for carrying power around a corner,
without the use of intervening pulleys or
gearing.

HAMMER QUARTZ MILL.—Mr. C. D.
Crocker exhibits a large working model of
a trip-hammer quartz mill which is else-
where more fully described and illustrated.

SPAULDING & Co. have a tasteful ar-
rangement of saws from their manufactory.
The American Flag, with escutcheons and
a huge eagle is faithfully represented by a
curious arrangement of saws—circular,
cross-cut, hand, ice, pruning and various
other kinds.

A HUGE MIXING PUMP of a capacity of
60,000 gallons per hour, of somewhat novel
construction is exhibited by Berry & Place.
They also exhibit an endless band saw,
several blowers and various other machines
for diverse purposes.

DAVID STODDART exhibits a series of
Cameron Steam Pumps, of various sizes
from 0 to 8, the largest of which has a
capacity of 2,400 gallons per minute. All
these pump are of heavy make being in-
tended for heavy as well as light duty.

NELSON & DOBLE are on hand with a
general assortment of horse shoers, tools,
miner's drilling sledges, hammers of vari-
ous kinds, sledges, chisels, etc. They also
show two ingots of steel, the first manu-
factured on this coast. One-half of each
ingot is drawn out to show the quality of
the steel.

DEACON & Co., Machinists, at 120 Main
street, exhibit a stationary engine, built
for the California Jewelry Company, who
are now erecting a large iron front build-
ing on Sutter street between Montgomery
and Kearny. We learn also that the same
machine shop has recently built a number
of small propeller engines which are high-
ly recommended for simplicity, compact-
ness and durability. Two of these are
to be seen on board of the steamer Coquette
at the foot of Third street.

PORTABLE SAWING MACHINE.—Mr. John-
son comes from Tuolumne county with a
sort of perambulating shop, which com-
prises a portable sawing machine, com-
bined with hand cart, tool chest and saw
mill.

THE RISDON IRON WORKS exhibit a pow-
erful steam winch for dock purposes—a
splendid piece of machinery of their own
manufacture.

THE ENGINES employed to drive the ma-
chinery in the Pavilion are from the Pa-
cific Iron Works, and are perfect models
of neat and substantial workmanship.

The Agricultural Department

Is not as full as it might be, yet a very
creditable exhibit is made, and of much
that is novel.

A NEW BROAD CAST SEEDER is exhibited
by Mr. W. H. Pope, which is illustrated
and described at length on our first page.

DRAIN AND SUBSOIL IRRIGATION PIPE.—
The Pacific Pottery Company of Sacra-
mento make a very fine exhibit, one of the
most interesting features of which is their
Drain and Subsoil Irrigation Pipes. These
pipes are made of a porous kind of clay in
sections of about 20 inches in length, and
from 3 to 7 and 8 inches in diameter.
Trenches are dug in the adobe ground
about fourteen inches deep, and fifteen feet
apart, and the pipes are laid in them. All
the sections are disjoined and loose gravel
is put in where the section ends should
touch. The trenches are then filled and

the water being turned into the pipes is
forced through the pores of the clay and
through the gravel between the pipe sec-
tions. It is found that this system
thoroughly moistens the hardest adobe
soil and keeps it wet. The vitrified iron
stone drainage pipes manufactured by the
company will bear a pressure of 110 pounds
to the square inch.

MR. PERKINS, the well known seed
grower and universal seed distributor ex-
hibits some very fine specimens of yellow
and white Silicia sugar beets, grown on
Sherman Island. Six of the specimens are
from crops grown on the levee. The product
yields under analysis, 16 percent. saccharine
substance, which is extraordinary. In ad-
dition to the beets, Mr. Perkins exhibits
144 varieties of seeds, and samples of Sher-
man Island barley, which yielded 90 bush-
els to the acre, and oats which yielded at
the thrasher 110 bushels to the acre.

"**THE CALIFORNIA GOLDEN FLEECE**," is
the title given a wool exhibit by Jas.
Hartley & Co., No. 41 Clay street. It is a
single fleece, weighing 26 pounds, sup-
posed to have been taken from a Merino
sheep, nearly pure bred, and the staple
averaging ten inches in length. This very
extraordinary fleece, worth about its weight
in silver, was found in a consignment to
Messrs. Hartley & Co., from the northern
part of the State, and had passed through
several hands before it was finally packed
for this city.

Messrs. Hartley & Co., are very anxious
to find the remarkable sheep which pro-
duced this fleece, or its owner. If this par-
agraph should meet the eye of the latter, he
is requested to put in an appearance at the
Pavilion, where honors await him.

AN ECCALEOBION.—Is one of the most
interesting novelties on exhibition in this
department. The whole process of egg
hatching without the aid of the hen may
here be seen. The proprietor will have a
brood of chickens out in a few days. This
is one of the most approved devices of the
kind which has ever been invented. We
shall probably be able to give an illustra-
tion of the same at an early day.

SILK FROM THE OSAGE ORANGE.—With
the article which appears in this number
of the *Farmer*, from our Entomological
editor, we received two skeins of raw silk,
spun by the worms Miss Murtfeldt speaks
of, that have been fed entirely upon the
leaves of the Osage Orange. The silk is
of good texture and beautiful color, and
goes far to establish the fact that Osage
Orange leaves are equal to the mulberry
as food for the worms.

In our opinion, much praise is due Miss
Murtfeldt, for her pains-taking labor to
establish the fact; and we are also gratified
that the *Farmer* is the first journal to pub-
lish the result of a successful experiment
in this direction.—*Kansas Farmer*.

The above is very good confirmation of
the experiments going on in the agricul-
tural department at Washington, where
we were recently shown the feeding of
worms on Osage Orange leaves.

BAY DISTRICT AGRICULTURAL ASSOCIATION.
The Second Annual Fair of this Associa-
tion will commence on the 21st instant and
continue six days. Two hundred stalls
have already been engaged for cattle and
horses that will be on exhibition.

The entire receipts of the opening day
of the Fair will be given to the Orphan
Asylum, on which occasion there will be a
grand parade of stock and several exhibi-
tions of speed, etc.

During the Fair there will also be a Grand
Tournament similar to the one which cre-
ated such interest at Baltimore last fall, at
which over 3,000 people were present.

WHEAT AT VALLEJO.—Over 4,000 tons of
wheat have been received at the elevator
in Vallejo this season.

QUICK WORK.—The amount of 2,525
bushels of wheat were cut and threshed at
Gen. Bidwell's ranch on the 7th, instant.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING AUGUST 1.

FEED-CUTTER.—Charles R. Donner, Sonora, Cal.

CARPET-STRETCHER.—Samuel Elliott, Sonora, Cal.

TOOL FOR ROUNDING LEATHER.—Le Roy A. Sweatt, San Francisco, Cal.

SLOP-HOPPER.—John G. Iis, San Francisco, Cal.

PARLOR SKATE.—David Kerr and Asa E. Hovey, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Castor Beans.

EDS. PRESS:—Can you inform me through the columns of your popular journal which is the most valuable kind of castor bean to grow—the large or the small tree.

I have some of the large kind growing on my place and am told they are quite worthless for any purpose. Also what kind of a mill do the growers use to clean the bean fit for market. B. B.

We are not aware that there is any difference in the size of the castor bean tree or bush, other than that produced from climatic effects. In Illinois and other Western States where this tree is largely grown it is an annual. In favorable localities in California it becomes perennial, and grows to a large tree.

There are several varieties of the bean, however, which present marked and distinct characteristics. Some varieties contain a much larger percentage of oil than others, and there is also a great difference in the matter of retaining or scattering their seeds up to the proper time for their being gathered. We believe there is a gentleman near Centerville, in Alameda county, whose name we do not recollect, who is cultivating a most approved variety. There are doubtless others in this State cultivating the same.

No "machine" is needed for preparing the beans for the market. The manner in which the beans are removed from the husks will be given next week in connection with some further hints with regard to the cultivation of this product.

CULTIVATING TULE LAND.—"Farmer," from San Joaquin County, asks for information about the breaking up of tulelands and putting them in a suitable condition for cultivation. Will some of our correspondents, who have had practical experience in that matter please communicate the same for publication to the RURAL PRESS. This is a subject which is attracting a large share of attention, and it is desirable that the public should be put in possession of all the facts attainable concerning it.

CANARY SEED CULTURE.—Mr. D. L. Perkins writes—in answer to a late query in the RURAL PRESS—that canary seed is grown upon Sherman Island, and does well there. It is sown and threshed just like other grain; only in threshing the cylinders are changed so as to work a little closer. The only trouble in growing the seed there, arises from the presence of innumerable blackbirds, who "play the mischief with it," whether in gathering up the seed when sown, or otherwise our correspondent sayeth not.

"J. B. M.," Marietta, Ohio. The Acacias of which you speak are not natives of the Pacific coast. Those now growing here, of which there are a great number of varieties, were originally from Australia. They will stand only a very slight frost, and will need the protection of a green house, in your latitude, as soon as the frost begins to make its appearance. They are not more hardy than the geranium.

The Wonders of California.

There are but few countries that possess more of the beautiful, unique, picturesque or grand than California. Wherever the traveler goes—in whatever direction—he is sure to meet some wonder which is especially Californian in character, and which can rarely be equalled in any other part of the world. Towering mountains, majestic forests, leaping waterfalls, broad valleys, deep and far-reaching caverns, or some other wonderful thing is constantly inviting the traveler to tarry, to look and admire. Among other wonders

"That are but parts of a stupendous whole,"

We may mention prominently the caves of Calaveras and El Dorado. The former was discovered in 1850 and pre-empted in 1853, by Messrs. Magee & Angell, who erected a hotel near by for the convenience of the numerous visitors which were then flocking thither to inspect this curious work of Nature. This cave is not so remarkable for its dimensions, as for the beauty and unique grandeur of its interior.

The most interesting and striking localities in this cave are known as follows:—A large room near the entrance, called the "Conical Chamber," the walls of which are massively solid rather than beautiful.



VIEW OF THE BRIDAL CHAMBER.

From this the traveler ascends to another large room called the "Cataract," a name which it well deserves from the perfect resemblance to rushing waters which its white depositions of lime present. We come next to the "Cathedral," a large, circular room, covered by a dome-shaped roof sixty feet high. From thence the visitor is shown into the "Bishop's Palace," near the center of which stands a perfect likeness of a full-robed Roman Bishop, minus his head.

Passing on a little further we reach a room of magnificent proportions, beautifully ornamented, with an innumerable number of snow-white pendants—stalactites—hanging in almost every conceivable form. Some like garments hanging in a wardrobe, with every seam and fold complete; others resembling beautifully arranged curtains; others still presenting portions of fluted columns, pendant, and others pear-shaped or pointed. When a light is raised aloft, behind or among these beautiful, alabaster-like formations, the effect is beautiful beyond conception. The reflected rays glance through and among the myriads of varying forms, white as snow and translucent as crystal, presenting a sparkling glory that surpasses anything ever seen in art or conceived in fancy! This room has not inaptly been called "The Bridal Chamber"—its walls and floors and hangings of spotless white being emblematical of purity, love and innocence.

Through the courtesy and favor of the publishers of "Scenes of Wonder and Curiosity in California"—Messrs. A. Roman & Co., of this city, we are permitted to

present to our readers the accompanying view of this fairy scene. At the distance of about one-sixth of a mile from the entrance is another room known as Musical Hall. The localities described are but the more striking features of this interesting locality, which, with the wonders of California, is more fully described in the work above mentioned.

OBSERVATIONS ABOUT COAL.—According to the Fourth Volume of the Report of the Geological Survey of Illinois, which has recently been published, our bituminous coal is not amorphous in its construction, but is built up of thin layers of crystalline matter, about one-eighth of an inch in thickness, and separated from each other by a thin filing of pulverulent, mineral charcoal, which consists of a compound of cellular tissue and of the vessels of plants. The outline of the plants which go to make up these separating films, is often so perfectly preserved, that the genera, and even the species to which the remains belong may often be recognized at first sight.

In cannel coal, which is supposed to have been formed under water, the distinctive forms of this vegetation has been generally lost by a more perfect decomposition. Even in the anthracite of Penn-

sylvania, which has been subjected to heat, so long as to become fused, as it were into cohesion, one can easily discern not only the separating films, but an abundance of remains of plants, also, whose genera, and even species are sometimes recognizable.

These facts have been well ascertained by microscopical examinations; and it is suggested that they should be taken into account in examining new theories in relation to the formation of coal.

SULPHUR.—The *Alta* says that the sulphur refinery establishment on the eastern bank of Clear Lake was closed on the first of the month, on account of the retorts being unfit for longer use, and from the further fact that the company have now 400 tons of refined sulphur on hand, while the annual consumption in the State is only 700 tons. The price of the imported article is now so low, and the amount of the crude article in sight at the company's works so small, that it is considered doubtful whether the work of refining will be resumed again very soon. An attempt was made to refine sulphur at a bank in Colusa county, some time since, but the stock of good material was soon exhausted and the works were closed up.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—This body met at Indianapolis, the capital of Indiana, on Wednesday last. The first session was to have been held at the Academy of Music, in that city, when a reception was to have been extended to the Association by the Governor of the State. It is expected that its next annual session will be held in this city.

The Shade Tree Law.

We would call the attention of the officers of our various counties and district agricultural societies, and all others to the provisions of what is known as the Shade Tree Law, passed at the session of the Legislature before the last, and suggested, if we mistake not, by our public spirited friend C. S. Capp, Esq., Manager of the Emigrant Union. It only becomes operative in counties where the Supervisors make it so by resolution, and is designed to encourage the planting of shade trees along public roads. The Supervisors of the county designate the kinds of trees that are best adapted to their county, and for which, if planted, the premium may be obtained, the particular roads upon which they may be planted, and how far apart.

Persons intending to apply for the premium have to file an affidavit when they want trees, specifying the place, the kind, the number, and the date. Three years after, if we are not mistaken, they come forward with proof that the trees have been maintained and are still growing. Proof being satisfactory they are entitled to a reduction of one dollar per tree on their general tax bills. This almost pays the cost of setting out and keeping up the trees—nothing more. There is not enough money in it as an operation by itself to induce people to plant for the sake of a profit on the mere trees, but it will increase the actual value of the farms, and, if generally adopted, of lands throughout the district. The county will be the gainer rather than loser in its revenues, by this expenditure—and this gain is permanent. It will make such sections far more attractive than is possible in any other way; it will create a stronger home feeling and pride in their homes, among our agriculturists; it will make the scenery finer and the long, hot, dry, dusty roads more comfortable for man and beast. The planting of trees will supply fire-wood, hard-wood, nuts and fruit where neither now exist, and the trees themselves will materially modify the climate by attracting and preserving moisture where now it is scanty and much needed.

The Supervisors of the agricultural counties will set this beneficent law in operation whenever the local agricultural societies and farmers, clubs agitate the matter, and urge them to do so. We would urge the farmers, many of whom doubtless are not even aware of the existence of the law, to consider its provisions, and demand that the Supervisors shall make it applicable to their respective counties.

Where a whole county is not ready for it, it may be made to apply to one or more of the townships, where the improvements are most valuable, and where the greatest amount of public spirit exists, by simply designating only the roads in that town, most suitable for the experiment, if such it may be regarded. If farmers faithfully carry out the provisions of the law, they and the county will gain greatly. If they don't, it will cost the county nothing at all events to give them the opportunity to do so.

It is important that this act of tree planting should be taken in hand at the next suitable season. Every year's delay is a serious loss to the State, and we would urge every farmer's club in the State to at least appoint a committee to examine the law and report upon its applicability to their own neighborhood. In the majority it is badly needed. The one "Alameda" between San José and Santa Clara has always been an object of pride and satisfaction to the inhabitants, and an attraction to visitors. The wonder is that without any premium we have not now a thousand such.

EXHIBITION OF POULTRY.—The first exhibition of the California Stock and Poultry Association is now held in Mercantile Library Hall.



Take it Easy.

Take it easy! Fretting, fuming,
All the golden hours away,
Ghosts of fancied wrongs exhuming
That had better buried stay,
Will not make the burden lighter
That through life you're called to bear—
Will not make the eye grow brighter,
Nor the brow less free from care.

Take it easy, never greeting
Trouble till within the door,
Then by firmly, bravely meeting,
Half the anguish will be o'er.
Fainting ne'er will win the battle,
Tears will not its progress stay;
Through the cannon's smoke and rattle,
Brighter shines the victor's day.

Take it easy, always catching
Gleams of sunshine when you can,
Ne'er the darker shadows watching
That across your path may span,
There's a cloud with silver lining
Somewhere in the darkened sky—
Never for its loss repining,
You will see it by and by.

Take it easy, time is slipping,
Life is like the fallen leaf
That the wintry frosts are nipping.
And its troubles are but brief.
Somewhere, far beyond the ether,
Lies the promised land of rest;
We shall take our journey thither,
When our Father seeth best.

Only A Farmer's Wife.

Two women sat together at sunset in the porch door of a white cottage that stood under its "old ancestral tree" and among its fields of wheat and corn, like a poet's vision of a quiet resting-place for some weary suffering human soul.

And one of these two women had eyes to see, ears to hear, and a heart to feel and appreciate it all. She was a tall and stately lady, apparently some thirty years of age—not exactly handsome, but with a grace of air and manner peculiarly her own. The careful toilet, the nameless air of elegance and luxury, the pale cheek, and the soft white hands betrayed the city dame. While the weary glance in her large, dark blue eyes, which even the pleasant quiet of that sunset hour could not drive away, showed that time had not dealt gently with her and her heart's idol, but had thrown them, shattered and ruined, at her feet.

Her company was some five years her junior, and many times prettier—a little round-faced, apple-cheeked woman with dark blue eyes and dark brown hair, and a rounded figure that was set off to the best advantage by the afternoon dress of the tinted muslin dress she wore.

At present the pretty face was almost spoiled by a querulous, discontented expression. She was contrasting her own hand, plump and small, but certainly rather brown, with the slender white fingers of her city friend, all glittering with rings. "Just look at the two!" she exclaimed. "That comes of making butter and cheese, and sweeping, and dusting, and washing dishes, and making beds all the time."

That man told the truth that said that woman's work was never done. I know mine never is. Oh, dear, dear! To think that you, Margaret, should have married a city merchant, and be as rich as a princess in a fairy tale; and here I am planted for life, plain Mrs. Hiram Parke, and nothing in the world to compare with you. I am sick of being a farmer's wife."

Margaret Von Howth looked down at her grumbling little friend with a sad smile.

"Jenny, it seems to me, as we sit here in this quiet place and look out over all these pleasant fields that are your own—it seems to me that you are almost wicked to talk like that."

"I dare say you would never like it, Margaret. You would never wish to change places with me."

"Perhaps not. Would you not like to change with me?"

"Yes."

"And be Mrs. Von Howth, instead of Mrs. Hiram Parke?"

Jenny hesitated. She dearly loved her handsome husband.

Well I don't mean that I want to give up Hiram. I only mean that I wish he was a rich merchant instead of a farmer, and as rich as your husband is; that is all.

"And that is a great deal. Jenny, if your wish could be granted do you know what your life would be?" said Mrs. Von Howth, coldly.

"What yours is, I suppose. What any lady's is in your position."

"But what is that life. Do you know?"

"How should I?"

"It is a weary one, Jenny, with more genuine hard work in than all your making of butter and cheese."

"Oh, Margaret!"

"And, oh, Jenny! believe me, my dear, there are no people on earth who work harder than the fashionables who only have their own amusement to provide for. A long life of mere amusement is a dog's life Jenny, at the best."

"I should like to be convinced of it by actual experience," said Jenny doubtfully.

"So I said and thought once. I have been so convinced. And it is all vanity and vexation of spirit, my dear."

"But how?" persisted Jenny.

"How? In ten thousand ways. If you live in the fashionable world you must do as the fashionable world does. You must rise and dress, and shop, and lunch, and dress again and drive, and dress again and appear at certain balls, parties, concerts, exactly as your friends do, or be voted bizarre, and out of the world altogether. You, my poor Jenny, who are by no means fond of dress, what would you do at a fashionable watering place in the hottest days of August, with five changes of toilet between morning and night, and a French lady's maid to tyrannize over you all the time into the bargain?"

"Horrors!" ejaculated Jenny.

"Balls that you must go to in spite of fatigue, parties that you must go to in spite of the heat, calls that you must make on people that you detest! Oh, Jenny, I should far rather be at home with the butter and cheese if I were you."

Jenny was silent. Here was the side of the bright picture which she had never seen or dreamed of before.

"You love your husband, Jenny?" said her friend after a time.

Jenny opened her eyes wide,

"Love him! Why isn't he my husband?"

was her reply.

Mrs. Von Howth laughed.

"Some women in society might think that a reason why you shouldn't love him!" she said dryly. "And he loves you also?"

"I should die to-morrow if I thought he did not."

"Tut, child. People leave this world when God wills it, not before. I dare say you would survive his infidelity. Many women before you have lived through such things."

"Don't talk of it, Margaret. I could not bear it. Why, he is all the world to me. How could I bear to lose him?"

"Then don't wish him to be a city merchant, my dear. I dare say there are many good men in the city—men who love their wives; but on the other hand, there are so many temptations, especially in society, that I sometimes wonder, not that so many go astray, but that so many remain true to themselves and their duty."

She spoke absently, and her eyes had a faraway glance, as if they dwelt on other things.

Jenny ventured a question.

"Margaret, is yours a happy marriage? Do you love your husband? And does he love you?"

Mrs. Von Howth started and turned pale.

"Jenny, I would have loved him—I would have been a good wife to him; but he never loved me. He brought me to place at the head of the house, because he thought me lady-like and interesting; that was all. He told me that once, though not quite so plainly as this. And since then we have each taken our own way, independent of the other. I seldom see him at our house in town. I have my carriage, my diamonds, my opera box. In the season I go to Saratoga, or Newport, while he favors Long Branch with his presence. We are perfect strangers to each other; we never quarrel; and I suppose if I were to die to-morrow, he'd be an inconsolable widower—for a week. Jenny, you will not wish to change places with me again. Your husband might change as mine has done, exposed to the same temptation. Thank heaven you have him as he is, a good, true man, who loves you; and never mind the butter and cheese, Jenny, so long as your happiness and his is made up with them."

She arose from her seat and strolled up the garden path.

Jenny did not follow. She sat on the step lost in thought. The riddle of her friend's life was at last made clear to her. She had often wondered why Margaret, in the midst of all her wealth and luxury,

should seem so sad. She wondered no longer now.

To be the wife of a man who had no love for you. What "lower deep" can there be! than this for a proud and sensitive woman?

Jenny turned with tears in her eyes to meet the stalwart husband as he came from the field.

"Well, little woman" he cried, and then she got the hearty kiss for which she was looking.

Yes, Margaret was right. The butter and cheese were of little consequence while love like this made her task easy to endure.

And the rosy-cheeked little woman bent fondly down over her "Hiram," as he flung himself down on the porch seat, and fanned him, talked to him, brought him, lemonade, and made him thoroughly happy and at rest.

Poor Margaret! Happy Jenny? Never again would she wish to be more—only a farmer's wife."

A BEAUTIFUL CUSTOM.—In the mountains of Tyrol, it is the custom of the women and children to come out, when it is bed-time, and sing their national song, until their husbands, fathers and brothers answer them on their return home. On the shores of the Adriatic such a custom prevails. There the wives of the fishermen come down about sunset and sing a melody. After singing the first stanza, they listen awhile for an answering strain from off the water and continue to sing and listen, till the well known voices come born on the tide, telling that the loved ones are almost home. How sweet to the weary fisherman, as the shadows gather around him, must be the sons of the loved ones at home, who sing to cheer him; and how they strengthen and tighten the bonds that bind together humble dwellers by the sea! Truly it is among the lowly of the world that we find some of the most beautiful customs in practice.

A NOVEL SCHOOL SYSTEM.—In the sparsely settled districts of Norway and Sweden, where there are not children enough in any neighborhood to give constant employment to a teacher, a system of traveling schools is provided. A public school-master collects a few children in some convenient room, instructs them for two or three months, then passes on to repeat the course in the next hamlet. In this way a medium of instruction is secured to every child in the country. A similar provision for the children of thinly-settled districts is made by the new school law of Georgia, the first experiment of the kind in this country.

THE WIFE.—"Gail Hamilton" well says: The honored and beloved wife, the beloved and cherished daughter, not only never ought, but does feel discomfort in dependence. She has no desire to renounce serfdom or to break chains; for there is no serfdom to renounce, no chain to break. Probably she seldom thinks of it all; but, if she does think of it, she thinks only how much happier is her lot, who is nourished through the ministry of love, than her neighbor's, whose life is only a hankless round of buying and selling.

CHOICE WORDS.—Cherish thy mother; brief perchance the time may be that she will claim the care she gave; past are her hope of youth, her harvest prime of joy on earth; her friends are in the grave, but for her children she would lay her heart gladly to rest among the cherished dead. O mother, mine, grant that I may never forget, whatever be my grief, or what my joy, the unmeasured, unextinguishable debt I owe thy love; but make my sweet employ ever, through my remaining days, to be to thee as faithful as thou wert to me.—Bethuner

Two married ladies chatting about their husbands:

"What," says one of them, "you permit your husband to smoke in your rooms?"

"Certainly I do, but he spends his evenings with me," replied the other.

"Yes, at that price!"

"My dear friend, a shrewd wife avails herself of her husband's faults to repress his vices."

NOTHING TO WEAR.—The wife of Senator Sprague of R. I. lately purchased in Paris six yards of what was said to be the finest lace ever made for which she paid the trifle of \$18,000. A photograph of the lace was retained in the store, where the purchase was made.

The frenzy of nations is the statesmanship of fate.

Young Folks' Column.

Tumble Weeds.

This curious yet appropriate name has been given to a singular kind of weed which grows in many parts of the Western States. They are quite a curiosity in their way and sometimes affords no little amusement to the children and grown people as well.

A tumble weed has a thick short root, like a beet, and a branchy top about the size of a bushel basket, which, when dry, forms a net work of small stiff branches. The root looses its hold in the fall, so that the wind forces it out of the ground, and then commences the fun. Its peculiar shape allows it to roll over and over, like a ball, and when the breeze catches it, away it goes tumbling or rolling over and over across the prairie for miles. Great numbers of them are often seen thus driven together by the wind. They move sometimes faster than a horse can run. They even leap fences and small creeks, like deer. They might well be taken in the distance like a herd of animals on a stampede.

They will sometimes collect against the side of a fence and pile up or accumulate until a passing current or gust of wind takes one over when away goes another and another, following each other like a flock of sheep, until nearly all are over, and bounding away until lost to sight. It is quite amusing to watch them chasing each other over hills and fences or far away across the broad prairies.

CUT HIS EYES OUT.—A small boy in Illinois being thrown down in the plowed ground by a mad bull, took out his pen-knife and extracted one eye, and commenced operations on the other "peeper" of the animal, who became distracted and roared a hasty retreat from the brave and thoughtful little fellow.

A LITTLE TRAVELER.—A little girl named Anna Morly, only nine years of age disappeared from her home in Rochester (N. Y.) some time since, and her anxious parents for some time could find no trace of her whereabouts. They finally telegraphed to relatives in New Jersey, and learned that the child had arrived there safe. She was sent back and has reached home. The little girl started with but a quarter of a dollar in her possession and the journey was in all respects a strange one for a child so young. The motive of the visit was probably one of those freaks to which children are subject.

FOR THE YOUNG FOLKS.—Any number of figures you may wish to multiply by 5 will give the same result if divided by 2—a much quicker operation; but you must remember to annex a cipher to the answer when there is no remainder, and when there is a remainder, whatever it may be, annex 5 to the answer. Multiply 464 by 5, and the answer will be 2,320; divide the same by 2, and you have 232, and as there is no remainder, you add a cipher. Now take 359—multiply by 5, and the answer is 1,795; on dividing this by 2 there is 179 and a remainder; you therefore place a 5 at the end of the line, and the result is again, 1,795.

NOT A SUPPOSABLE CASE.—In a little town out west a lady teacher was exercising a class of juveniles in mental arithmetic. She commenced the question, "suppose you buy a cow for ten dollars," when up starts a little hand. "What is it, Johnnie?" "Why, you can't buy no kind of a cow for ten dollars, father sold one the other day for sixty dollars, and she was a regular old scrub at that."

"MOTHER," said a four-year-old, what season of the year was it when Adam and Eve were in the garden of Eden?" "I don't know, my dear, unless it was summer—a perpetual summer." Oh, no, mamma, it must have been in the fall, for you know apples were ripe."

A LITTLE girl in West Virginia, busily engaged working a pair of slippers intended for a birthday gift to her father, said to one of her playmates: "I think you are real lucky, for your papa has got only one leg, and you needn't work but one."

DOMESTIC ECONOMY.

Hints in Canning Fruit.

The season for canning fruit is now at its height and every housekeeper should put up a good supply for use after fresh fruit has gone. There is nothing healthier or hardly anything cheaper than canned fruit—really worth nothing where you raise it yourself. The best fruit is that which contains the least sugar—even down to none at all.

It may seem almost superfluous to write anything upon this subject—so generally is canning practiced, and so adept do most people think they are at the business; but one Estelle Edgerton has written a letter to the *American Agriculturist*, which we think contains some hints that will be new at least to some of our readers. We copy as follows:

A lady not long since was telling me that last fall she put up three baskets of as handsome peaches as were ever gathered, and every bottle was spoiled. I constantly hear the ladies talking about their spoiled fruit. There is another remark I often hear, and which seems absurd to me. It is this: "My fruit always white molds, and I think improves it." There is a thick leathery white mold, which often forms on the top of the fruit, and which can be removed whole without affecting, apparently, the flavor of the fruit; but it is not desirable to have even this sort of mold. It would be out of the question to send such bottles to a long distance, as the mold would be spread all over the fruit, if it did not impart any unpleasant flavor. There is such a thing as having bottled fruit without any mold whatever. I think the reason white mold forms, is, that the lid of the can is not applied soon enough, and many ladies consider this as part of the process. Only yesterday a friend told me that she always waited three or four minutes after the fruit was in the bottle before putting on the lid. "It lets out the air," she said. I looked surprised. "You know there are always bubbles of air that have to come up." "Oh, yes!" "I know but I always run a knife quickly down the inside, and that brings them up." The quicker the lid is applied, the better, and it should not be disturbed until you want to use the fruit.

In regard to the air-bubbles, which often form while the bottle is filling, a little care will obviate the difficulty. In putting the fruit into the bottle, do not pour in such a way as to close the whole mouth of the bottle, because that prevents the escape of the air; but rather let the fruit slide gently down the side of the bottle. It can be done just as quickly this way as the other.

The secret of having bottled fruit keep, is to have a perfectly air-tight cover, and to be sure that the fruit perfectly boils all throughout, before putting it into the bottles, and then to be quick about putting on the cover, and letting the cover alone until you want to use the contents of the bottle.

It is not necessary to let out the steam or air, after the cover is on. Do not place a string under the rubber for this purpose. Do not insert a pen-knife under the rubber (according to some directions) to let out air (I know a lady that learned this lesson after her peaches had all fermented). It is not necessary to bury bottles in the earth, or to have a dark vault made in the cellar for the purpose. Mine keep perfectly, without mold, on a shelf in a rather light cellar. If you bottle your fruit in the right way, it will keep almost anywhere, but by the stove; if you don't do it right, and let in the air with a knife, or some other way, it won't keep, no matter where you put it. Of course, if you have not done it right it will keep longer in a dark, cold place, but it will succumb to the atmosphere in the end. Bottled fruit put up in a proper manner will keep for years if desired. I had some splendid peaches at a friend's the other evening, and she said she did not know whether they were two or three years old. But she knew they were not last year's, for she did not put up any, as she had used all her empty bottles for cherries, plums, raspberries, etc., and she had several bottles of peaches on hand, and she did not think it necessary to buy more bottles for a fresh supply.

Arrangement of Rooms.

Give your apartments expression—character. Rooms which mean nothing are cheerless, indeed. Study light and shade, and the combination and arrangement of drapery, furniture and pictures. Allow nothing to look isolated, but let everything present an air of sociability. Observe a room immediately after a number of people have left it, and then as you arrange the furniture, disturb as little as possible the relative position of chairs, ottomans and sofas. Place two or three chairs in a conversational attitude in some cheery corner, an ottoman within easy distance of a sofa, a chair near your stand of stereoscopic views or engravings, and one where a good light will fall on the book which you may reach from the table near. Make little studies of effect which shall repay the more than usual observer, and do not leave it possible for one to make the criticism which applies to so many homes, even of wealth and elegance—"Fine carpets, handsome furniture, a few pictures, and elegant nothings—but how dreary!" The chilling atmosphere is felt at once, and we cannot divest ourselves of the idea that we must maintain a stiff and severe demeanor to accord with the spirit of the place. Make your homes, then, so cosy and cheerful, that, if we visit you, we may be joyous and unconstrained, and not feel ourselves out of harmony with our surroundings.—*Art Review.*

ALMONDS possess one very important quality which is not generally known. By pounding and mixing with water, and straining, a beverage almost precisely similar to the sweetest and richest (cow's) milk may be obtained. Cream even separates from this milk, which may be converted into butter; so it is said. Thus almond orchards might afford us a supply of milk. Rees' Cyclopaedia, in a recipe for preparing milk of almonds, gives the proportions to be used as one ounce of almonds to one quart of water. In nutritious properties it is said by chemists to be fully equal to cow's milk, and has fine medicinal qualities, being a valuable remedy for heart burn, acidity, etc. We should like to receive for publication the actual experience in this use of the almond. Will some one who has the fruit, experiment and report?

HOW TO BLEACH COTTON CLOTH.—It may sometimes become necessary or convenient to bleach a piece of cotton cloth, although as a general thing it is better to obtain white cloths already bleached. Home-bleaching, moreover, is apt to injure the fabric more than the process in use at the factories, especially when manipulated, as it always is there, by skilled hands. However, cloth may be bleached as follows:

To five pounds of cloth take twelve ounces of chloride of lime. Dissolve the lime in a small quantity of boiling water; when cold, strain it into a sufficient quantity of water to cover the cloth. This must first be boiled fifteen minutes in strong soapsuds, and rinsed well in clear water. Then put it in the lime-water from ten to twenty minutes, airing it well by lifting up and down. Rinse thoroughly in warm or cold water.

HOME MADE CHLORIDE OF LIME.—An excellent disinfectant is readily obtained by dissolving a bushel of salt in a barrel of water, and with the salt water slack a barrel of lime, which should be wet enough to form a kind of paste. For the purpose of a disinfectant, this home-made chloride of lime is nearly as good as that purchased at the shops and drug stores.

ALL salted provisions should be watched to see that they are kept under the brine; for if one piece of meat lies up it will spoil the whole barrel. If the brine looks bloody, it must be scalded and more salt added; when cold, pour back.

BETTER THAN SODA.—A German scientific journal recommends laundresses to use hyposulphide of soda in place of common washing soda. It does not attack the fabric in any way, and at the same time exerts some bleaching action, which greatly improves the appearance of linen calicoes.

Domestic Receipts.

VELVET BISCUIT.—In the milk and two well-beaten eggs put the yeast, soft butter and salt. Stir into it sufficient flour to make soft dough; strew some flour over it; lay a warm towel over the pan, and set it in a warm place to rise. Dip your hands in flour, and work the dough down; make it into small flat cakes; lay them on a buttered tin pan, quite near each other, and bake them in a quick oven for fifteen minutes, or until done.

SPONGE FLOUR BISCUIT.—Sift the flour and salt into a pan; heat the milk and lard together; pour the yeast and milk into the flour; make a stiff dough when risen; grease a pan; drop the batter on in large tablespoonfuls; let them set where they will be merely warm (no more), then bake in a quick oven; eat at once. They may be baked in cups.

TO MAKE A SHORT CRUST.—Put six ounces of butter to eight ounces of flour, and work them well together; then mix it up with as little water as possible, so as to have it a stiffish paste; then roll it out thin for use.

PASTE FOR FRUIT TARTS.—Put a pound of flour on your pastry slab, with six ounces of butter, and rub them well together with your hands, then make a hole in the center, in which put two ounces of powdered sugar, two whole eggs, and rather more than a wineglass of water; mix the eggs, water and butter, shaking the whole well together, and when dry, work it together lightly, with the hands.

ANOTHER WAY.—Put an ounce of loaf sugar, beat and sifted, to one pound of fine flour. Make it into a stiff paste, with a gill of boiling cream, and three ounces of butter. Work it well, and roll it very thin.

PUT UP TOMATOES as follows: One peck of tomatoes, skinned; one and a half pints of vinegar; four pounds of sugar; one tablespoonful of cloves and one of allspice. Put in stone pots and cover tight.

CORN FRITTERS.—Beat two eggs, and add to them one pint of grated green corn, and as much wheat flour as will make it adhere together. Dip the mixture out with a tablespoon, and fry in small cakes in hot lard.

Mechanical Hints.

GREEN VARNISH.—There is a most beautiful transparent green varnish employed to give a fine glittering color to gilt or other decorated works. As the preparation of this varnish is very little known, an account of it may in all probability prove of interest to many of our readers. The process is as follows: Grind a small quantity of a peculiar pigment, called "Chinese blue," along with about double the quantity of finely powdered chromate of potash, and a sufficient quantity of copal varnish thinned with turpentine. The mixture requires the most elaborate grinding or incorporating of its ingredients, otherwise it will not be transparent, and therefore useless for the purpose for which it is intended.

The "tone" of the color may be varied by an alteration in the proportion of the ingredients:—A preponderance of chromate of potash causes a yellowish shade in the green, as might have been expected, and vice versa with the blue under the same circumstances. This colored varnish will produce a very striking effect in japanned goods, paper-hangings etc., and can be made at a very cheap rate.—*Cabinetmaker.*

HINTS TO BUILDERS.—One of the worst mistakes architects make in constructing houses is the narrow stairways in the rear. For instance, one almost invariably finds the stairway leading from kitchen to cellar or laundry only wide enough for one person. If there is any part of a house that should have a broad easy stairway, it is that part which is used the most, and where it is necessary daily to carry bulky materials up and down. It is good economy to have a wide stairway all through a house. In nearly all of our high-stoop city houses there is no water or wash-basin on the main floor, and there is no reason for this defect but the inconceivable stupidity of architects. If an architect can find no other place for a wash basin, let him locate it in a niche in the hall—anywhere, so that he saves the family from the miles and miles of unnecessary fatiguing stair-travel which they otherwise must suffer.—*American Builder.*

RICE BEER.—The brewers in Germany have got to making beer from rice. It is very clear, pale in color and has a pleasant, mild taste, foaming strongly and retaining its carbonic acid.

THE woman that maketh a good pudding in silence is better than one that maketh a tart reply.

LIFE THOUGHTS.

NOTHING is really troublesome that we do willingly.

THE world is only saved by the breath of the school-children.

LOVE is the spark that burns up the mountains of iniquity.

A BEAUTIFUL external life symbolizes a beautiful internal life.

GAIN one clear distinct truth, and it becomes a centre of light.

LEARNING hath gained most by those books by which the printers have lost.

THE virtue which requires to be over guarded is scarcely worth the sentinel.

A KIND speech and forgiveness are better than alms, which harm or reproach followeth.

ONLY profound stupidity can always, despite every shock, keep up a belief in its own infallibility.

GREAT efforts from great motives are the best definition of a happy life. The easiest labor is a burden to him who has no motives for performing it.

As in the silence of the night the ear catches the least sound, so, in the solitude of reflection, the mind detects soft and delicate strains of thought, unheard in the bustle of the crowd.

ENJOY the blessings of day, and the evils bear patiently and sweetly, for this day only is ours; we are dead to yesterday, and are not born to the morrow.

WEIGH every step that you are about to take, whenever passions become involved. How often do things assume a different aspect when they are fairly considered.

The Voyage of Life.

Life bears us on, like the stream of a mighty river. Our boat first glides down the mighty channel—through the playful murmurings of the little brook and the windings of its grassy borders. The trees shed their blossoms; the flowers seem to offer themselves to the young hands; we are happy in hope, and grasp eagerly at the beauties around us, but the stream hurries on, and still our hands are empty. Our course in youth and manhood is along a deeper and wider flood, among objects more striking and magnificent. We are animated at the moving pictures, and enjoyment and industry all around us; we are excited at some short lived disappointment. The stream bears us on, and our griefs are alike left behind. We may be shipwrecked, but we cannot be delayed; whether rough or smooth, the river hastens on till the roar of the ocean is in our ears, the tossing of the waves is beneath our feet, the floods are lifted up around us, and we take our leave of earth and its inhabitants, until of our future voyage there is no witness save the Infinite and Eternal. *Bishop Heber.*

LAUGHTER.—Nothing act so directly on the organs within, both chest and abdomen. Ten hearty laughs, real shouts, will do more to advance the general health and vitality than an hour spent in the best attitudes and motions, if in a sober, solemn spirit. Of course we know you can't laugh at your will, so you must play with your little children, introduce a hundred games which involve competition and fun. Open the folding doors, move back the center table, and go at it. Play with the dog, run for the pious, play any of the games which you can recall from early experience.

A WORD.—Say not a word you had better leave unsaid. A word is a little thing, we know, but it has stirred up a world of strife. Suppressing a word saved many a character—many a life. A word unuttered, and Hamilton would have lived, a pride of his country. Who can tell the good or bad effect of a single word? Be careful what you say.

KIND WORDS are the bright flowers of earth's existence; they make a very paradise of the humblest home the world can show. Use them, and especially around the fireside circle. They are jewels beyond price, and more precious to heal the wounded heart, and make the weighed-down spirit glad, than all other blessings the earth can give.

"I LOVE the man who can smile in trouble, that can gather strength from distress, and grow brave by reflection. It is the business of little minds to shrink; but he whose heart is firm, and whose conscience approves his conduct, will pursue his principles to the death."—*Thomas Paine.*

A California Improved Road Steamer.

[Written for the Press.]

What has become of Hyde's overland steamer? has been asked so often, that we have taken pains to give the public an answer. Every one is familiar with its performances in this city; and of its transfer to Sacramento, and its feat of hauling the three capitol columns 50,000 lbs.—unloading itself from the cars down an incline of 32°, and loading itself up over the same slope when it had performed its work at the capitol. The next we hear of it is from the *Corinne Reporter*, of June 3d, which remarked: "The steam wagon drew well to-day, it drew a big crowd of spectators;" also, "Early last evening the great steam wagon of the Corinne line to Southern Utah arrived from the west on the freight train. It is a wonder of strength and ingenuity and has already been tried as to capacity for hauling. It is now here awaiting the steamboat to carry it across Great Salt Lake to the roads leading toward the mines. A commencement of the vast enterprise of making steam thoroughfares of all the common roads in Utah. Col. Hyde & W. W. Hanscom, the builder, goes to Salt Lake City, to-day, with this useful wonder, and after showing it to the inhabitants of that place will return and ship it to Lake Point, by the steamboat, City of Corinne."

The *Corinne* paper, of June 10th, says the steam wagon has arrived from Salt Lake City, where it has been giving practical tests of its powers. It goes to Lake Point from here to haul ores from the mines to the steamboat landing. From the boat it crawled its way to land over the shaky wharf with the same caution that any other elephant would. It was there loaded with lumber and coal, for bridges and fuel on a train of six wagons, one of iron entirely, the others ordinary freight wagons. The progress of the steamer to Tooele and Stockton and its return with a load of ore and bullion are best given from Mr. Hanscom's diary notes taken on the trip.

The greatest difficulty experienced was in the supply of water obtainable on the road, some of which could not be kept in the boiler on account of its effervescing so much. It became necessary to blow out the water several times when they could get better to fill up with. The tanks carried 300 gallons, which will supply 20-horse power four hours, with a consumption of five pounds of coal per horse power per hour.

Notes of the Trip.

July 11th, 1871—Left Lake Point at 9 o'clock this morning, tanks and bunkers full of water and coal. Drawing:

| | |
|------------------------------------|-------------|
| One iron truck..... | 5,000 lbs. |
| Five wood freight wagons..... | 10,000 lbs. |
| Steamer itself..... | 22,000 lbs. |
| | 37,000 lbs. |
| Lumber and coal to distribute..... | 26,000 lbs. |
| Total..... | 63,000 lbs. |

Road rough, over rocks—an old stage road. Water foamed very much. Stopped at Grecian Bend for drinking water. From here the grade was 1 in 20; used 85 lbs. steam; road hard. Stopped at Coral for water with 45 lbs. of steam. Water not foaming so bad. Filled tanks and started with 70 lbs. of steam. Coal very bad, making much clinker, stopped for steam at 60 lbs., started with 80 lbs. steam on grade 1 in 30 a distance of 3,860 feet to summit. Stopped to pump up boiler. Started with 50 lbs. steam, but stopped again soon to make more. Arriving at Eave's, 4½ miles, at twenty minutes past three. Terrific wind storm. Filled tanks by barrels; took on ¼ cord of wood and left two tons coal. Stopped at Eave's all night.

Started from here in the morning with full tanks, 100 lbs. steam, grate clean and fuel good; gained steam to 125 lbs. on an up grade of 1 in 100. Arrived at L. J. Smith's, at 7-15 min., with 70 lbs. steam and 16 in. of water in tanks. Left L. J. S.'s at 9.55 with 130 lbs. steam; in 21 minutes stopped for water in boiler, on up grade of 1 in 40, road soft loam, much cut up by teams. Boiler foamed very much when going over the little sharp spitches of the road. Stopped for steam and water in boiler—boiler still foaming. Had to stop and draw fire and clean clinkers off of the grate—clinkers as big as a hat being drawn out. Started again on an up grade of 1 in 16 with 65 lbs. steam and cutting off at ¾ stroke; stopped for water in boiler and lunched. When one quarter of a mile

from Three Mile creek, unhitched from train and run to creek for water, but found it dry. Hyde then walked three miles in to Tooele town got four barrels of water hauled out to the engine. Hitched on and brought train across the creek. Mayor, officers and citizens came out with a band of music to welcome the steam horse. Got three more barrels of water, but unhitched and run to the creek near Tooele for more water; back and hitched on again taking train about half a mile, when it being near dark, unhitched and ran the engine to the creek on edge of Tooele and stopped for the night getting to the Oquirrh House at half past nine.

Sunday morning, took engine and train round to front of the hotel and all rested this day—Monday—took out lumber for bridge and cleaned out our boiler. Tuesday, 18th, took train with seven barrels of water, 1,000 lbs. coal and left at noon, going by way of Coleman's with 60 lbs. steam. Stopped five minutes to examine the road; started on but soon stopped again five minutes to feel the road, and examine the ditches. In crossing the ditches wheels would sink five and six inches; but finding hard bottom would keep going, went round corners with steam at 60 lbs. drawing the train. Reached last ditch at 10 o'clock. Filled tanks, barrels and boiler and bellies and went ahead again. Run on till we broke through into a drain from a house. Unhitched and hauled out with the wire rope and 120 lbs. steam. Stopped to clear stones from last dry ditch; ran along 20 minutes, stopped to take stones out of the road. Grade averaging 1 in 45. Arrived at turn of road and stopped for water. Started up grade, 1 in 35, with 85 lbs. of steam. Stopped on grade of 1 in 25 to clear road of rocks. Started and run 20 minutes; stopped to throw out stones, again going on 15 minutes, stopped for stones. Tank one-half full. The last mile, before making divide, the grade ranged from 1 in 16 to 1 in 9. Arrived at Stockton at 7½ p. m., amid great excitement. Wednesday 19th left three wagons at hotel to load with one, at barn. Took the iron truck and one wagon to smelters for bullion, loaded truck with 13,000 lbs. and wagon 7,000 lbs. Road out of the cañon hard gravel, but sidling, 1 in 7—on grade 1 in 50.

Broke train to go over the divide. Took truck with 13,000 pounds up the grade 1 in 8 with 110 lbs. steam; road hard and some gravel, cutting off at ¾ stroke; also over grade of 1 in 10, with 90 lbs. of steam, cutting off at ¾. Got wagons all in town at night. July 20th started in morning and hauled wagon with 7,000 lbs. to top of divide; then iron truck with 13,000; then 2 wagons, with 160 sacks of ore; then clipper wagon with 40 sacks. In hauling these loads from Stockton to divide, the load including engine averaged 40,000 lbs. The grade was 1 in 25 and steam 80 lbs., the road dry, dusty, grass ground, no sinking of engine wheels, but wagon wheels sunk some. With gross load of 40,000 lbs., up a grade of 1 in 7 it took 115 lbs. of steam, over a very bad, rough road full of stones, from size of walnuts to hen's eggs, and sidling 1 in 5. Got all wagons to top, made up train and tried it.

| | | |
|-----------------|-------------|---------------------------|
| Steamer..... | 22,000 lbs. | |
| Iron truck..... | 5,000 lbs. | 7,000 lbs. Rolling Stock. |
| 5 wagons..... | 10,000 lbs. | |
| Bullion..... | 20,000 lbs. | |
| Ore..... | 20,000 lbs. | 43,000 lbs. |
| Water..... | 2,000 lbs. | |
| Coal..... | 1,000 lbs. | |
| Total..... | 80,000 lbs. | |

Started the train with 100 lbs. steam; crossed Soldier's Bridge Cañon, taking the whole train up a grade of 1 in 25, in one place 1 in 7, requiring 120 lbs. steam, cutting off at ¾ of stroke. After crossing bridge and one more canon, stopped train for the night. All but Hyde walked back to Stockton for supper. They took his to him as they went back, all slept on train.

Friday, 21st, made an early start, with 100 lbs. steam, up a grade of 1 in 28, cutting off at ¾. Bolt in eccentric strap got loose and slipped. Stopped, put in a bolt and moved with 120 lbs. steam on ground soft enough for wheels to sink an inch and up a grade of 1 in 18 cutting off at ¾. Stopped and unhitched to run to Tooele for water. Devil or some other bad spirits in the water that came out of the whisky and vinegar barrels prevented boiler making steam, and had to blow everything entirely out and start fresh.

Saturday, 22d, filled boiler and went out to train in afternoon, brought train to bridge.

Sunday, rested.

Monday, 24th, sawed wood and brought train across bridge to Nelson's and filled up with water; while crossing a bridge the forward iron truck run off the track plank and cut through, and every wheel of the

train dropped to the axle, cutting the planks into splinters and making kindling wood for the rest of the trip.

Tuesday 25th, started from Nelson's with train and 10 sacks coal and 1 cord of wood; run back to creek, fixed bridge, filled tanks and barrels, hitched on to train and got to Eave's at 5:40. Coal very bad, being about ¾ shale. Stopped for night.

Wednesday, 26th, left Eave's at 9 o'clock, run down to Lorenzo Youngs for better water, washed engine, and started with train, water foaming very badly, got train to foot of hill and blowed out, went back to Young's again, got all fresh water, and took iron truck to top of hill. Then 2 wagons. Hanscom walked to Clinton, and engine went back again for water. Blowed out and filled up.

Thursday, 27th, finished hauling the water and put in 12 sacks coal, got steam and left Eave's at 1:30 p. m., taking the last 3 wagons to top of hill. Made up train and started at 2:20, arriving at Grecian Bend at 6 o'clock. Unhitched and went to trading store. After filling tanks and boiler, went to Clinton's and stopped for night.

Friday, 28th, started at 9:30 a. m. getting into Lake Point at 11 a. m., leaving bullion wagons at stable and ore wagons at Steamboat Mill.

Thus was run the first freight train ever drawn in America, by steam, over a new, rough country road; and Messrs. Hyde & Son have received the first freight money ever earned by such means. Though the difficulties particularly as to water seemed almost insurmountable, yet with a pluck that was astonishing to the slow apprehensions of the Utahites, Messrs. Hyde & Hanscom overcame every difficulty, and brought the train in that showed immense capabilities in the machine. When we survey, by the aid of these diary notes, the ground it went over, and the load it hauled—40,000 pounds of ore and bullion, and 37,000 lbs. of rolling stock in engine and wagons, with an average of 3,000 of fuel and water, making a load of 80,000 lbs. moved twenty miles, the engine running back and forward for water, making about 60 miles running.

The road over which this work was done consists mostly of loam, which has a road resistance of 150 to 250 lbs. per ton, with three places where the resistance ran as low as 100 lbs. per ton, the road being hard sand. The grades varied from 1 in 100 to 1 in 7—the most about 1 in 50; and in some places there were pitches about seventy-five to one hundred and twenty-five feet across, from eight to twelve feet deep, some of them containing many rocks projecting above the ground from one to two inches. Some of the steepest grades were sidling from 1 in 5 to 1 in 12, throwing immense strain on the wheels and rubber tires, and showing the powerful traction those wheels have. Total amount of water used from Stockton to Lake Point, (20 miles) was 1,500 gallons and about 3,000 lbs. of coal. The resistance of the road averaged about 6,000 lbs.

The engine is rated at 20 indicated horse power; but is capable of exerting, for a short time, much more than that as indicated by the statement of gross loads over various grades, with the resistance given to gravity and road resistance, at an average speed of 1½ miles per hour.

Table of the resistance at circumference of driving wheels, for

| 63,000 lbs. | grade | 1 in 16. | resistance | 6,401 |
|-------------|-------|----------|------------|--------|
| 40,000 lbs. | " | 1 in 8. | " | 6,840 |
| 40,000 lbs. | " | 1 in 7. | " | 7,720 |
| 80,000 lbs. | " | 1 in 18. | " | 11,760 |

The engine has stood the rough work of the road—traveling in all about 60 miles—to the satisfaction of owners and builders, and they consider that the trip has demonstrated that, mechanically, steam on common roads has been made a success. This showing compares most favorably with the recent trials of road engines in England, at the Wolverhampton agricultural show, lately published in the *Engineer*, particularly in the tractive power of the wheels. No power that the engine has exerted has been able to slip the wheels, and several times the whole pull would be suspended on the point of a rock.

The work has demonstrated the efficiency and superiority of the kind of rubber tire employed by Mr. Hyde over every other yet introduced, the rubbers showing in their action, as was anticipated, a regular, continuous change of surface as they were pressed to and left the ground, creeping around in their beds by every pressure, thus presenting a new surface to the wear at every revolution of the wheel, and keeping a perfectly true roller. There appears to have been fewer weak points developed in this machine than in any other we have been informed of; and those who are interested should compare the perform-

ance of this engine with the recent trials of road engines at Barnhurst and from Wolverhampton to Stafford in England, as published in the *Engineer*, which will show that with all their experience they are not one whit ahead of the new State of California in overland or road steamers.

Recapitulation.

To move the total weight of 80,000 lbs., engine cutting off at ¾ and road grade 1 in 25, required 120 lbs. steam; with the grade 1 in 28, hard and smooth, required 100 lbs. steam; with grade 1 in 18, on loamy road, so that train wheels would cut in three-quarters to an inch deep required 120 lbs.

On a level, hard, smooth road 60 lbs. steam would start the load, and 45 lbs. would then keep it moving. On a down grade of 1 in 22, the gravity of the load would move the whole train without steam. The actual running time on the road for the first 4½ miles was 3 hours 15 minutes; to next station, 2½ miles, 1 hour and 30 minutes actual pulling time. From thence to Tooele, 6½ miles, though they did not get there till night, yet the real working time was but 3 hours 49 minutes. From Tooele to Stockton, 6½ miles, the working time was 2 hours 25 minutes. Total, 10 hours 59 minutes.

On the return trip, the working time was from Stockton to Eave's, 13 miles, 8 hours and 10 minutes, and from Eaves to Lake Point, 3 hours and 20 minutes. Total hauling time, 11 hours 30 minutes.

What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*
The first No. evinces marked editorial ability.... Fills up a vacancy that has been felt in our agricultural department.... With its publishers there is no such word as fail.—*Ut. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—*Sierra Den.*
It is a work which no farmer should be without.—*[Eureka Union.]*

An admirable specimen both as to execution and contents.... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—*[Stockton Daily Ind.]*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—*[Eureka Alameda.]*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*[Encinal.]*

They can't, if they will, make it a creditable work. (We will that.) It opens well. Excellent paper and type—and a first-class agricultural journal.... Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—*[Vallejo Recorder.]*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—*[Arizona Miner.]*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—*[Idaho Statesman.]*

Just the kind needed on this coast, and merits an extended circulation.—*[Red Bluff Independent.]*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.... It has already attained to a large circulation....

It is running over with entertaining and instructive reading matter, and embellished with numerous engravings. The editorial is beautiful and appropriate.—*[Pajaronian.]*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to combine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press*. If the first number is to be taken as an earnest of what will follow, each week, we can advise to say to all interested in agricultural pursuits, subscribe.—*[Vallejo Chronicle.]*

Dewey & Co., publishers, have annual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—*[Eureka, S. F.]*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information that it contains, that it fills the bill.

We notice that L. N. Hoag, of Yolo county, has been selected as one of the contributors to the "Scientific Press". It is the duty of the farmer to sustain it, and try and make it a success, which we believe will be done.—*[Yolo Mail.]*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and useful matter, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press", which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—\$2 a year; or to a club of 10 or more, \$2. Sample copies sent on receipt of a postage stamp.—*[Alpine Miner.]*

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population. Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—*[Democrat, Downville.]*

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press", the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—*[Alpine Chronicle.]*

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—*[Christian Advocate, S. F.]*

It will represent the agricultural interests of California and the Pacific Slope. It is a paper that will do much to command a wide circulation and influence.—*[Helena, (M. T.) Gaz.]*

Will be found worthy the patronage of the people of this State.—*[Argus, Snelling.]*

We heartily welcome the new publication.

The interests of our own county are about equally divided between mining and farming. Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—*[Inyo Independent.]*

FROM A CORRESPONDENT.—I have seen your "Pacific Rural" and I never tire of looking at and studying its head and front. It is a truly picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

Industrial Fairs for 1871.

CALIFORNIA.
The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.
The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.
The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.
The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.
The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.
The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.
The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

The times of the other fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Aug. 17th.

FLOUR—The market has been more active since our last report, especially for export. The sales for China and Central America have aggregated about 12,000 bbls.—nearly as much as went forward during the two preceding weeks. Dealers also report a good jobbing trade. We quote as follows:

Superfine, \$5.87@6.00; extra, in sacks, \$6.62@6.75. Standard Oregon brands, extra, may be quoted \$6.00@6.50.

WHEAT—The demand for export still continues light. The vessels loading have their wheat engaged, but there is little further business being done. The orders for wheat are liberal in extent, and much could be taken within their limits, at present rates of freight, at about \$2.10, but the asking is higher. Most of the business being done is for account of the millers, who are active at this time. The surplus wheat in the country is about 2,000,000 sacks, but there will be probably little disposition to sell it until after the result of the English crops shall have been determined. The latest reports from Europe are to the effect that in Germany the harvest will be late; in France the weather is fine and harvest in progress in the neighborhood of Lyons, and the yield good and prices generally dull. The estimates in England are that less imports will be required for the coming year than for the past.

The receipts have been quite large during the past week. Sales have aggregated about 30,000 sks. ordinary to choice at \$2.15@2.25. At the close we quote fair to choice at the above figures, with choice shipping at \$2.20, about 10 cents above the limit of European orders.

The Liverpool market comes through at 11s. 7p. per cental—an advance of one penny since our last summary.

BARLEY—The market still rules very firm with a further slight advance in prices. Sales have aggregated about 8,000 sacks—mostly new, at \$1.67@1.85. At the close we quote new at \$1.82@1.87, and old at \$1.90@2.00.

OATS—Have been in fair demand at improved prices. Sales of 5,000 sacks are reported at from \$1.75@1.90 from fair to choice.

CORN—The market may be quoted at \$2.30 @2.50.

CORNMEAL—Is quotable at \$2.75@3.25, according to quality.

BUCKWHEAT—Still nominal at \$3.50

RYE—In liberal supply at \$1.85@2.00.

STRAW—Quotable at \$9@10 by the cargo.

BRAN—The mill price is \$24.00@25.00. A sale of 30 tons from the wharf is reported at \$23.

MIDDINGS—For feed are now selling at \$35 and \$40 for fine.

OIL CAKE MEAL—Is quotable at \$40 from the mill.

HAY—The receipts are fair with good demand. We quote ordinary to choice at \$20.00 @24.00 per ton. We note a sale of 15 tons of tame oat at \$23.75; 25 tons at \$22.50 and 18 do at \$22.75—a material advance over last quotations.

HONEY—We quote Los Angeles comb 12@13c. Potter's in 2-lb. cans, \$4.50 per doz.

POTATOES—The receipts continue free, with improved rates. Mission are selling at 65@90c; we quote Half-moon Bay \$1.00. Sale of 200 sks. Lighthouse are reported at 75@80.

SWEET POTATOES—are sold at 3c. on the wharf.

HOPS—Demand light—prices nominal at 8 @12½c. for California.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9c. Sales during the week 2,431 Cal. dry, and 2,330 salted.

WOOL—Sales for the past week approximate 50,000 lbs. at full figures. We quote California Fall clip at 28@32c. and Oregon Spring at 38@41c per lb. At Boston, for California Wool the demand is good and the sales have been upward of 300,000 lbs. at full figures, which reduces the stock, and the assortment is much broken.

During the month of July, 3,408,000 lbs. foreign was imported at New York, of which 1,988,000 lbs. came from South America and 1,230,000 lbs. from England. The total imports at that port for July, 1870, were 731,000 lbs. On the 4th of August a sale of 250 bales of California spring was made in New York at 37½@40c.

TALLOW—The extremes may be quoted from 8@9½c.

SEEDS—Flax 3@3½c., Canary, 8c., Alfalfa, 16c., Mustard 4@5½c.

PROVISIONS—California Bacon 14½@15c; Oregon, 14½@15½; Chicago 14@14½c; Cal. Hams 14½@15; Oregon do, 14½@15c; California Sugar-cured Hams, 17@18c; Oregon do, 17@18c; Eastern do, 19@20c; California Smoked Beef, 13@14c.

BEANS—Are selling at the following rates: small White and Pea, 2@2½c; small Butter 2@2½c; large do, 2½@2¾c; Pink 1½c; Bayo, 2½@3c per lb.

ONIONS—We quote at 75@90c, for red and yellow.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Pecan, 22@23c per lb.; Chili walnuts, 13@18c, Hickory, 12c; Brazil, 15.

FRUIT—Tahitian Oranges, \$15@18; Limes \$10 per 1,000 Cal. lemons, \$6 per 100. Bananas, \$1.50@2.50 per bunch; Cocoanuts, \$8@10 per 100; Apples, 30c@1.00; Pears, 50c@75 per box & Bartlett's \$1.50@1.75; Peaches, 50c@1.50 basket; Apricots, 75c@1.00; Nectarines, \$1.00 @1.50 per box. Raspberries, 12½c per lb; Plums, 1c@3c per lb.; Blackberries, 4@5c; Figs, 8@10c; Grapes—Sweet water, 50c@1.25; Muscat of Alexandria, 5@8c; Rose of Peru, \$1.50 @2.00 per box.

VEGETABLES—Cabbage is selling at ¼@1c; Garlic, 1c; String Beans, 1c; Summer Squash 1½; Tomatoes, 30c@35c for river, and 75c for bay; Cucumbers, \$1.00@1.25 per box; Green Corn, 10@15c per doz; Watermelons, 5@12c each, and Canteloupes \$1.00@2.00 per doz; Marrowfat Squash, \$7@8 per ton.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 9@10c per lb. Do 2d quality 7@8c per lb. Do 3d do 5@6c per lb.

VEAL—Extremes, 9@11c.

MUTTON—5½@6c per lb.

LAMB—May be quoted at from 7½@8c per lb.

PORK—Undressed is quotable at 5½@6½c. dressed, 8½@9½c.

POULTRY—Live Turkeys, 18@20c per lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$3.50@4.00; Ducks, \$3.00@3.60 per doz. Geese, \$12@15 per dozen.

WILD GAME—Rabbits, \$1.25@1.50; Terrapin, \$1.50@2 per dozen; Venison, 9@11c per lb by the carcass.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 25@32c; California firkin butter, 25@30c. Eastern firkin 15@25c.

CHEESE—In fair supply, California new, 10 @14c., California Factory 16c., Eastern, 16@17c. for new.

EGGS—California fresh, 45.

LARD—California Lard, 11-lb tins, 14@15c; Oregon in bbls. 14½c.; Eastern do. 13 @14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

week 1,431 Cal. dry, and 2,330 salted.

TABLE OF MISCELLANEOUS.

Sugar, crsh'd, 15 @ 15 1/2
Hemp Seed, 7 @ 9
Hawaiian, do, 9 @ 12
Castor Beans, 4 @ 4 1/2
Coffee, Cos. R, 15 @ 16
Castor Oil, gal., 1 75 @ 2 00
Rio, do, 16 @ 16
Lined Oil, gal., 1 05 @ 1 10
Tea, Japan, 50 @ 90
Brazil, do, 50 @ 90
Green, do, 50 @ 90
Rice, Haw'n, 8 @ 8 1/2
Peanuts, 5 @ 7
China, do, 6 @ 7 1/2
Corn Meal, cwt., 2 50 @ 4 00
Coal Oil, gal., 15 @ 60
Onions, cwt., 1 50 @ 2 50
Candle, 15 @ 18

Leather Market Report.

[Corrected weekly by Dilliver & Bro., No. 109 Post st.]

SOLE LEATHER.—San Francisco, Thursday, August 17.
Kitem shipments still keep the market firm and the demand good.
City Tanned Leather, 1 lb. 26 @ 30
Santa Cruz Leather, 1 lb. 26 @ 30
Country Leather, 1 lb. 25 @ 28
Leading French stocks have declined slightly. California kips are higher and in demand.
Jodot, 8 Kil., per doz. 80 00 @ 96 00
Jodot, 11 to 19 Kil., per doz. 82 00 @ 96 00
Jodot, second choice, 11 to 15 Kil., per doz. 68 00 @ 88 00
Lemoine, 16 to 19 Kil., per doz. 98 00 @ 100 00
Levin, 12 and 14 Kil., per doz. 98 00 @ 100 00
Cornellian, 16 Kil., per doz. 72 00 @ 70 00
Cornellian, 12 to 14 Kil., per doz. 65 00 @ 70 00
Ogerau Calif, 16 Kil., per doz. 54 00 @ 50 00
Mercier Calif, 16 Kil., per doz. 65 00 @ 60 00
Robert Calif, 7 and 8 Kil., per doz. 35 00 @ 40 00
Common French Calf Skins, per doz. 35 00 @ 75 00
French Kips, 1 lb. 1 10 @ 1 30
California Kip, 1 lb. 60 00 @ 75 00
Eastern Wheel Stuffed Calf, 1 lb. 80 00 @ 1 25
Eastern Best Stuffed Calf, 1 lb. 1 10 @ 1 25
Eastern Calf for Backs, 1 lb. 1 15 @ 1 25
Sheep Roans for Topping, all colors, 1 lb. 8 00 @ 13 00
Sheep Roans for Linings, 1 lb. 5 50 @ 10 50
California Russett Sheep Linings, 1 lb. 1 75 @ 5 50
Best Jodot Calf Foot Legs, 1 pair. 5 25
Good French Calf Foot Legs, 1 pair. 4 50 @ 5 00
French Calf Boot Legs, 1 pair. 4 00
Harness Leather, 1 lb. 30 @ 37 1/2
Fair Bridle Leather, 1 lb. 48 00 @ 72 00
Skirting Leather, 1 lb. 34 @ 37 1/2
Welt Leather, 1 lb. 35 00 @ 50 00
Buff Leather, 1 foot. 17 @ 21
Wax Side Leather, 1 foot. 18 @ 20

TRAVIS & WAGNER, 41 First St., Mill Stones, Bolting Cloths and general Mill Furnishing, Portable Mills of all sizes from 16 to 36 in. None superior man'd for farmers & ranchmen.

San Francisco Retail Market Rates.

FRIDAY, August 18, 1871

MISCELLANEOUS.
Butter, Cal. fr. 35 @ 45
Pickled, Cal. fr. 35 @ 40
do Oregon, 35 @ 40
Honey, 25 @ 30
Cheese, 20 @ 25
Eggs, per doz. 35 @ 50
Lard, 18 @ 20
Sugar, cr. 6 1/2 @ 10
Brown, do. 10 @ 13
Beet, do. 10 @ 13
Sugar, Map. B. 25 @ 30
Plums, dried, 15 @ 25
Peaches, dried, 15 @ 25

PRODUCE, ETC.
Codfish, dry, 60 @ 12 1/2
Flour, ex. 50 @ 75
Superfine, do. 50 @ 60
Corn Meal, 100 B. 30 @ 35
Wheat, 100 B. 20 @ 25
Oats, 100 B. 15 @ 20

FRUITS, VEGETABLES, ETC.
Pine Apples, 5 @ 10
Bananas, 3 @ 10
Cal. Walnuts, 10 @ 20
Cranberries, 75 @ 100
Cranberries, 75 @ 100
Apples, Early, 10 @ 15
Red Astrakhan, 10 @ 15
Red June, 2 @ 10
Pears, table, 10 @ 15
Plums, Cherry, 6 @ 8
Currants, 6 @ 8
Apricots, Royal, 3 @ 5
Moorpark, 3 @ 5
White, 2 1/2 @ 4
Cherries, 5 @ 10
Gooseberries, 3 @ 5
Raspberries, 18 @ 20
Strawberries, 10 @ 15
Blackberries, 8 @ 10
Oranges, cwt. 30 @ 35
Lemons, cwt. 50 @ 60
Limes, cwt. 25 @ 30
Figs, dried, 10 @ 15
Asparagus, wh. 6 @ 10
Artichokes, doz. 5 @ 10
Brussels sprouts, 20 @ 25
Beets, doz. 20 @ 25
Potatoes, 2 @ 3
Potatoes, sweet, 4 @ 5
Broccoli, doz. 1 50 @ 2 00
Cauliflower, 1 @ 1 00

POULTRY, GAME, MEATS, ETC.
Chickens, apiece 50 @ 75
Turkeys, 20 @ 25
Ducks, wild, 10 @ 15
Tame, do. 10 @ 15
Teal, doz. 10 @ 15
Geese, wild, each 2 50 @ 3 00
Tame, 3 per 100
From Chicago, 75 @ 85
Hens, each. 75 @ 85
Snipe, doz. 10 @ 15
English, doz. 10 @ 15
Venison, doz. 10 @ 15
Quails, doz. 10 @ 15
Pigeons, dom. doz. 10 @ 15
Wild, do. 10 @ 15
Hares, each 40 @ 50
Rabbits, tame. 50 @ 100
Wild, 2 @ 1 1/2
Squirrel, pair. 25 @ 30
Beef, tend, 20 @ 25
Sirloin and rib 18 @ 20
Corned, 10 @ 12
Smoked, 15 @ 18
Pork, rib, etc. 12 1/2 @ 15
Chops, do. 12 @ 15
Veal, 15 @ 20
Cutlet, do. 20 @ 25
Mutton chops, 12 1/2 @ 15
Leg, 12 1/2 @ 15
Lamb, 15 @ 20
Tongues, beef, ea 75 @ 100
Tongues, pig, ea 15 @ 20

* Per lb. † Per dozen. ‡ Per gallon.

Wool Prices in New York.

BROWN'S CIRCULAR, August, 1871.

DOMESTIC FLEECES.
NEW YORK, MICHIGAN, INDIANA AND WISCONSIN.
Choice Set'd Saxony Fl. 60 @ 62
Saxony Fleece... 65 @ 67
1/2 and Full-bld Merino... 63 @ 65
Half-bld Fleece... 57 @ 60

OHIO, PENNSYLVANIA AND VIRGINIA.
Choice Set'd Saxony Fl. 70 @ 75
Saxony Fleece... 65 @ 67
1/2 and Full-bld Merino... 60 @ 65
Half-bld Fleece... 62 @ 65

IOWA, VERMONT AND ILLINOIS
1/2 and Full-bld Merino... 52 @ 57
Half-bld Fleece... 52 @ 57
Combining Fleece... 60 @ 65

MISSOURI, KENTUCKY AND TENNESSEE.
Washed Fleece... 58 @ 62
Unwashed Fleece... 47 @ 50
Canada Fleece... 58 @ 70

TUB-WASHED WOOL.
Choice... 70 @ 75
Fair... 65 @ 70

PULLED WOOL.
N. Y. City extra Pulled... 55 @ 60
N. Y. City super Pulled... 57 @ 62
N. Y. City No. 1 Pulled... 56 @ 60
Lamb's Wool... 54 @ 57
Western super and ext 54 @ 58

CALIFORNIA.
Spring Clip, fine... 40 @ 45
Spring Clip, medium... 40 @ 45
Spring Clip, lg wds & br... 36 @ 40
Fall Clip, A. 1... 30 @ 35

TEXAS.
Fine... 40 @ 45
Medium... 37 @ 40
Low... 35 @ 40

FOREIGN WOOLS.
Cape of Good Hope... 40 @ 43
Buenos Ayres Merino... 33 @ 37
Buenos Ayres Mestiza... 31 @ 35
Mestiza Pulled, low gds... 25 @ 30

A Good Binder for \$1.50.

Subscribers for this journal can obtain our Patent Elastic Newspaper File Holder and Binder for \$1.50—containing gilt title of the paper on the cover. It preserves the papers completely and in such shape that they may be quickly fastened and retained in book form at the end of the volume, and the binder (which is very durable) used continuously for subsequent volumes. Sent postage free. It can be used for Harper's Weekly and other papers of similar size. If not entirely pleased, purchasers may return them within 30 days. Just the thing for libraries and reading rooms, and all who wish to file the PRESS.

A FLORENCE SEWING MACHINE, but slightly used, and good as new, for sale at 10 per cent. less than its cost—\$67.50. Part of the money may be paid in installments by a person who gives good recommendations—in the city, or in the country near San Francisco. To be seen at John I. Tay's, Broadway, Oakland. apl-by-ff

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.
W. H. MURRAY—General Traveling Agent.
TALBOT P. POWERS—Solana and neighboring Counties.
I. N. HOAG—Sacramento, General Agent.
F. M. SHAW—San Diego.
T. W. DRULLARD—California.
M. W. LEVY—Denver, Colorado.
M. B. STARR—Pacific Coast.
THOS. POYZER—California.
WM. J. CLARK—California.
JOSEPH DIMMICK—California.
E. P. HICKS—California and Oregon.
A. C. KNOX, City Soliciting and Collecting Agent.

Our Printed Mail List.

Subscribers will notice that the figures found on the right of the pasted slips, represent the date to which they have paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4j173, to the 4th of July, 1873. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.
If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction. Please notify us if you are not properly credited within two weeks after paying.

Fair Samples.

During the Autumn Fair Season it is the purpose of the proprietors to bring the attention of every person engaged in the line of industries represented by this journal, to the personal benefit to be gained by its patronage and regular reading. We are not only determined to print a superior paper, but are bound that people shall know it, see it, and learn its power of self-elevation and practical benefit, by experience.

To accomplish this we have concluded to print (perhaps weekly) during the Fair season, many extra papers as fair sample copies of the Press for gratuitous and judicious circulation amongst the very best class of citizens—i. e., the steady, industrial, intelligent and producing population. By this liberal means our regular circulation will be greatly extended, and the different individuals who will receive and critically examine the paper and its entire contents will aggregate an immense number during the next three months.

Premium for New Subscriptions.

There are many persons not familiar with the value of the PRESS who would ever after be thankful to our present subscribers for bringing their names on to our list of intelligent readers. Large additions can be made with little effort by the many in this way. We therefore offer (post paid) a premium of one of the patent newspaper file holders (advertised in this paper) for every two new subscriptions received with \$8 advanced payment.

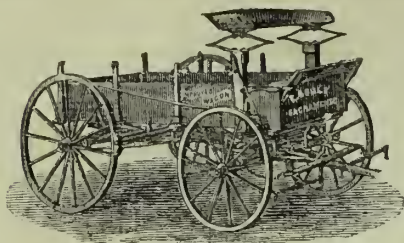
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Send us Communications.—They will be re-spected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

Go to the Best.—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS.
M. K. LAUDEN, President, San Francisco, Cal.

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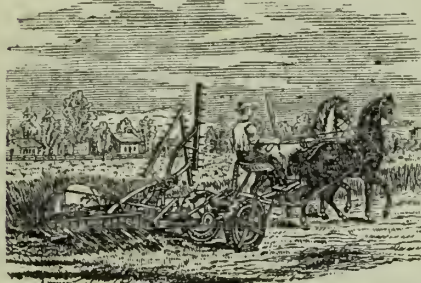
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For Level Land and Side Hill.

8 Sizes.



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They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel Cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

Manufactured and sold by

F. F. HOLBROOK & CO.,
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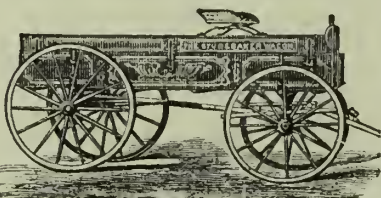
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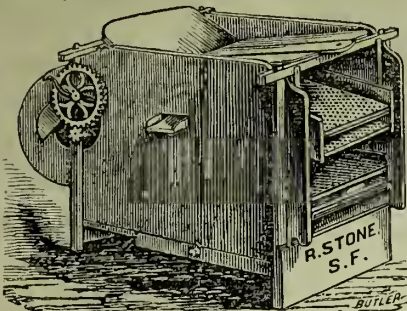
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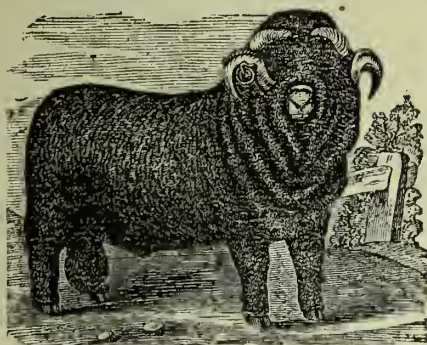
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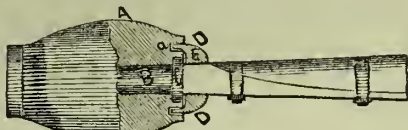
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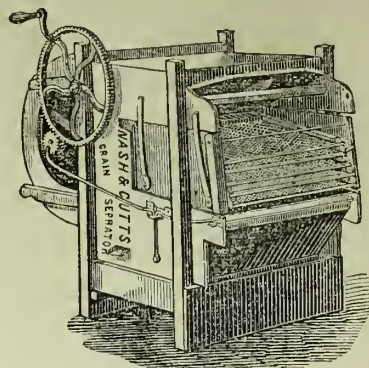
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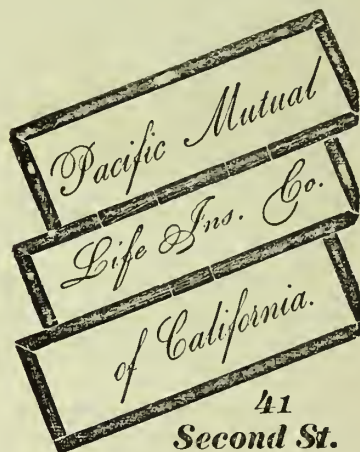
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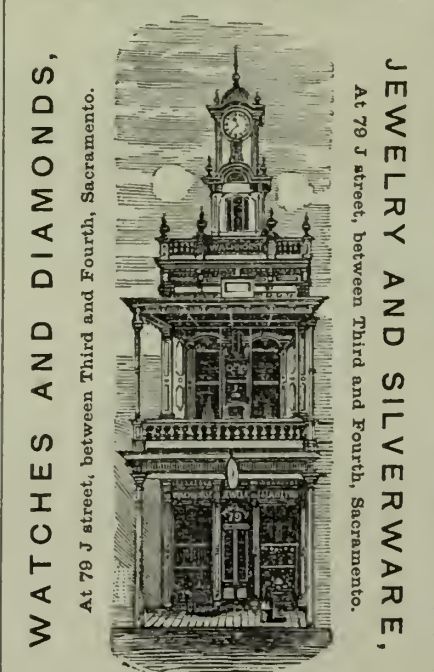


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PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, AUGUST 26, 1871.

[Number 8.]

Hill's Patent Eureka Gang Plow.

We herewith present an illustration of a gang plow invented by Mr. Frank A. Hill, of Marysville, and for which a patent has been obtained through the agency connected with this office. The patentees claim: "First,—an improved arrangement of levers for raising and lowering the frame on the axle, so as to throw the plow in and out of the ground. Second,—an improved manner of attaching the upright standard which connects the plows with the frame to the landside, so as to secure strength and stability; and third,—an improved manner of attaching the pole to the axle so that its direction and position can be readily changed, when desired.

They are made of the best material, under the immediate supervision of the patentee; they are of very light draught, the dead force usually brought against sharp, curved mold-boards being entirely done away with. They can be readily adjusted to cut a furrow of any required depth. The principle which regulates them, is so simple that they are easily controlled by a boy. They are adapted to any soil, working equally well in sand, clay, gravel or adobe. Each plow is warranted to give satisfaction or no sale.

These plows have been in use three years, and are giving very general satisfaction. They took the first premium at the State Fair, Sacramento, in 1870; at the Northern District Fair, Marysville, in 1870; and at the Upper Sacramento Valley Fairs in 1870 over all competitors."

They combine durability, lightness, cheapness and light draught. The plans combined in their structure have been the result of experiments with a view to manufacture a perfect plow. They are now in use on hundreds of ranches in Yuba, Sutter, and other counties, and in every instance, so far as we have learned, they have given perfect satisfaction. Our Anaheim correspondent, in another column of this week's issue, gives them a handsome endorsement. The proprietors feel that in offering this plow to the public, they have given them an article that is its own best advertisement where used. They are also manufacturing a single plow which cuts from twelve to fourteen inches in depth, turning a furrow from sixteen to twenty inches wide. This plow will turn $3\frac{1}{2}$ acres per day. Hill & Knaugh, Marysville, manufacturers, keep both varieties on hand. These plows may now be seen on exhibition at the Mechanics' Institute Pavilion, and will also be shown at the State and District Fairs.

AT THE AGRICULTURAL PARK.—One hundred head of fine stock arrived on Monday from San José, for exhibition at the Agricultural Park. They were mostly driven, but a portion were conveyed thither in teams.

The State Fair.

This Fair opens at Sacramento on the 18th of September (Monday), and closes on the 23d (Saturday). As the time approaches, evidences accumulate that the importance of this occasion is appreciated more and more, each year, by all classes throughout the State. While the District, County and Mechanics' Fairs are of great value, and serve the purpose of stimulating local pride and local exertion for improvement, and afford opportunities for farmers, mechanics and manufacturers of their respective localities to compare notes, correct errors, and form plans for a more safe

will duplicate at Sacramento the magnificent floricultural exhibition, now the great feature of attraction at the Fair of the Mechanics' Institute, in this city. To accommodate this beautiful feature of the Fair, the Society have obtained permission to enclose and use 120x30 feet of ground lying east of the Pavilion. This will be covered by a canvas-roofed building, and a landscape garden will be there created, after the style of that at this city, affording a most delightful promenade among the flowers.

The Stock Ground.

will show a better collection of all kinds of blooded horses, cattle, sheep, hogs and

Fruits for Eastern Fairs.

Through the exertions of corresponding Secretary Heag, backed by the Board, the State Agricultural Society ships to day a large collection of California fruit to the American Horticultural and Pomological Society, for exhibition at their fair to be held in the City of Richmond, Virginia, from the 6th to the 8th of September next. The shipment consists of over 50 varieties of apples, and upwards of 50 of pears—3 specimens of each variety; also a fine collection of peaches and plums, mostly from the foot-hills. Pomegranates, nectarines, oranges, lemons, olives, English walnuts, etc., and a large variety of grapes were also included.

It is the expectation of the Society to win some of the premiums offered by the National Society. The effect of such an exhibition of our fruits at the East cannot be other than valuable to our State. The Society sends a delegate with the fruit to take charge of, explain and exhibit it. Dr. J. S. Curtis, of this State, has also been delegated by our State Society to attend the National Pomological Exhibition and the fairs of the State Societies East. The Dr. being thoroughly posted in all our horticultural and agricultural advantages, will be able to represent our State in a creditable and intelligent manner.

CHANGES IN IMMIGRATION.—A few years since, Ireland was the great source of immigration into the United States; and later Germany took the lead; but the present prospects are that both those localities are about to give place to England in supplying future citizens to the great Republic.

In 1863, 116,301 Irish left their home for this country, and the same year 76,473 English and Scotch came over. In 1870, the figures were nearly reversed, for in that year, only 74,283 Irish left their homes for America, while the number of emigrating English and Scotch reached 128,228. The German immigration which by reason of the war declined from 65,752 to 48,396, will doubtless again advance to its former figures or higher, as soon as the imperial armies are reduced to their peace footing.

The cause of the activity of English emigration is undoubtedly referable to a more general recognition among that people of the advantages which await emigrants in the United States. Democratic tendencies in England are also producing greater affinities for free institutions than was formerly the case, and are fast wearing away the prejudice which has heretofore been so strong against our government that it was rarely that an Englishman became naturalized. Under the new condition of things we may expect a more general tendency to naturalization among our English cousins who came over to dwell with us,



HILL'S PATENT EUREKA GANG PLOW.

and successful conduct of their business in the future, the State Fair affords these advantages to all the people of the State. Indeed, an exhibition of manufactured goods at the State Fair, this year, will be equivalent to, and even better, than an advertisement in all the local papers throughout the coast—just so much better as an actual showing of such goods is better than a mere description of them in the columns of a newspaper.

We make this statement because we see evidences every day that the attendance at that Fair will be very large, not only from all parts of the Pacific Coast, but from the Atlantic as well. Indeed, many of the Atlantic States, including Virginia, Massachusetts, Connecticut, New York, Pennsylvania, Ohio, Indiana, Kentucky, Missouri, Illinois, Iowa, Wisconsin, Michigan, Kansas and Nebraska have already engaged space at the State Fair for the exhibition of their products in competition with similar products of our own and other Pacific State productions. Indeed, the State Fair of 1871 will partake very much of the nature of a national, or international exhibition, rather; for not only our own States and Territories will be there represented, but China, Japan and Australia will also exhibit samples of many of their agricultural, mechanical and manufactured goods.

A Floral Display.

The Bay District Horticultural Society

poultry, than was ever got together on this coast, if not in the United States. All the best trotting and running horses on the coast are already entered in the races, which come off at the Park each day of the Fair, so that all classes of people seeking recreation and enjoyment, or improvement, are well provided for. The services of one of the best bands in the State have been secured for the week, and indeed every thing seems to have been thought of that can add interest and pleasure to the occasion.

The Fine Arts.

We will mention, last, that one of the finest features of the exhibition will probably be that of the fine arts—there being already space engaged for a most magnificent display in this department, both by our own and foreign artists. The indications are that there will be more people collected together at Sacramento during the State Fair week, than were ever before assembled on any public occasion on the Pacific Coast.

Under the circumstances, we would remind all who wish to exhibit in any of the departments of the Fair, that the sooner they send in their applications for space, the better both for them and the Managers.

BEEF SUGAR IN ILLINOIS does not promise a very great success; the soil is not well adapted to the development of the saccharine property of the beet.

MECHANICAL PROGRESS.

Iron for Church Edifices.

A new and most important use has recently been found for the universal metal, which is so indelibly stamping its name upon almost every department of progress in this remarkable age. Iron, which has for a long time been largely employed for ship building and for business structures, is now also being used in the city of Brooklyn (N. Y.) in the construction of church edifices. It is found to possess most excellent acoustic properties, can be heated quicker and at less expense than any other kind of structure, while the cost of construction is vastly reduced. Two iron churches have already been constructed in that city; a third is in process of erection; a fourth has been contracted for, and a fifth has its plans completed.

The third, now in process of construction, will cost \$61,000, and is expected to excel in every particular a neighboring church lately erected at a cost of \$220,000. The last mentioned, which has just been planned, includes an auditorium occupying a single floor, unbroken by column or gallery, and covered by a roof of 100 feet span.

It is now claimed by the Brooklyn architects that an iron church can be built for at least one-half less than one of stone of the same capacity; while it will be quite as comfortable, commodious and imposing, and with improved acoustic properties. It is believed that a "new departure" has thus been reached in ecclesiastic architecture.

MUZZLE VERSUS BREECH-LOADING ORDNANCE.—Experiments have lately been instituted by the English, at Shoeburyness, with a view to ascertain the relative merits of muzzle and breech-loading ordnance. The guns employed were the Prussian breech-loading, steel, nine pounder, and the English muzzle loading, steel lined, coil gun. The results are quite interesting and seem to establish the superiority of the muzzle loader for accuracy, and rapidity of fire, as well as range. These experiments seem also to contradict the generally received opinion that the Prussian breech loading steel gun is of such superior merit as has been stated.

AN INGENIOUS DEVICE.—An exchange describes an ingenious apparatus now in use on the Chicago, Burlington & Quincy road, which employs electricity as an agent to assist in filling locomotive tanks with water. The steam pump which supplies the tank is situated on a stream half a mile distant, and entirely out of sight. A float is so arranged that, when water is drawn off more than two or three inches below the top of the tank, a circuit is closed connected by wires with the pump-house. This sets a bell ringing within hearing of the engineer, who starts the pump and runs it until the tank is full, which is duly announced by the cessation of the alarm. The application of a similar apparatus for the direction of flow of water in stationary steam boilers might be made, we think, to answer a good purpose, by reminding delinquent engineers of their duty before it is too late to perform it.—*E.c.*

The new railway on the Rigi, has been opened. It runs to a height of 5,000 feet, and is constructed with three rails, the middle one of which is a rack intended to work with a pawl attached to the locomotive. Each train is composed of engine and two carriages holding about sixty persons. The engine either pushes or retards the train, and does not draw it, being always at the lower end of the carriages. The fare is 5f. for the ascent, and 3f. for the descent.

ABSORPTION OF GAS BY CHARCOAL UNDER INCREASED PRESSURE.—Mr. Hunter, of London, has lately shown that the quantity of gas absorbed by charcoal increases with the amount of pressure to which it is exposed; and that equal variation in pressure produces nearly equal variation in the quantity of the absorbed gas.

Effects of Cold on Metal.

We have previously taken occasion to express the hope that an extensive series of thoroughly practical experiments might be carried out by competent parties to determine to what extent the strength of metals is effected by extreme cold. In this connection, we quoted the results of trials that were made by the Darlington Iron Company in November, 1869, and described by a foreign cotemporary. The rails were taken promiscuously from a lot of 1,000 all supposed to be of the same quality, weight, and exact section. It had been found that the rails which were then in course of manufacture for the East Indian railways at these works, and which were of a very high quality, failed to pass the required test in frosty weather, whereas in ordinary temperatures a failure was a very rare occurrence. The ten rails were accordingly selected to settle the question whether higher and lower temperature affected the strength of the rails. Four rails were heated up to 120° Fahr.; the other six were tested cold, the temperature of the atmosphere being about 26°. At 120°, all the bars stood two 5-ft. blows, and one 8-ft. blow. At 26°, only one bar stood two 5-ft. blows, three broke at the second 5-ft. blow, and one at the first 5-ft. blow. At 60°, all would probably have passed the test easily, many thousands having previously done so from the same lot. It will therefore be seen that the results are in perfect agreement in all these experiments, showing that bar-iron, boiler plates, wire billets, and rails are most literally weakened by the action of intense cold, losing all their toughness, becoming quite brittle under sudden impact, and having their structures changed from fibrous to crystalline. Similar instances could be given in illustration of this in the daily practice of engineering. In large works the breakages of wrought-iron are very considerable during frosts. Quarymen find that their chains are very liable to fracture from the same cause; and, doubtless, the numerous accidents of failing tires in our railways may be attributable to it. In many cases, however, the contraction of iron must also be taken into account, as it is a serious item. It cannot be doubted that iron does become very much weaker, both in its cast and wrought state, under the influence of low temperatures.—*Am. Artisan.*

PILING AND SELECTION OF SCRAP.—Some of the inferior articles rolled from scrap-iron, such as axles, owe that inferiority to the careless manner in which the "piles" are made up, by children and persons entirely ignorant of the peculiar properties of iron and steel. At the works where this scrap is used, some of the softest and toughest iron, bolts, wire, hoop-iron, old files, axes, saws, etc., are indiscriminately mixed together. To a certain extent each of these qualities have their peculiar welding points. When worked together, one portion that is less refined is too much heated, and consequently deteriorated, before the more highly refined portions have reached a welding heat, and are thus placed in the awkward dilemma of either burning the one or being unable to weld the other. The selection and piling of scrap-iron for axles is intrusted only to "experts," or those who have had long experience in the selection and working of metals; and car-axes made at these establishments have a reputation, and stand tests both theoretical and practical, such as show that this discrimination in selection of the material is a perfectly practical manner. When the selection is left, however, to the careless and incapable, the imperfections in piling become a sure source of danger and disaster.—*E.c.*

COPPER COATING.—The production of sheet-iron plates coated with copper and brass is a new branch of industry in England. It is claimed for the product that the plates present great advantages to the makers of finished goods, compared with tin or galvanized plates, as they can be annealed, which is requisite during the process of stamping, without injury to the copper or brass coating; and that they also are superior to sheet copper or sheet brass, because articles manufactured from them are not so readily bent or dented as when they are made of brass or copper, and they can be burnished, planished, or spun, and so brought up to any required degree of finish.

The salt formed in the boilers of a large steamer would, if not prevented by flowing off or surface condensation, amount to 20 tons per day.

SCIENTIFIC PROGRESS.

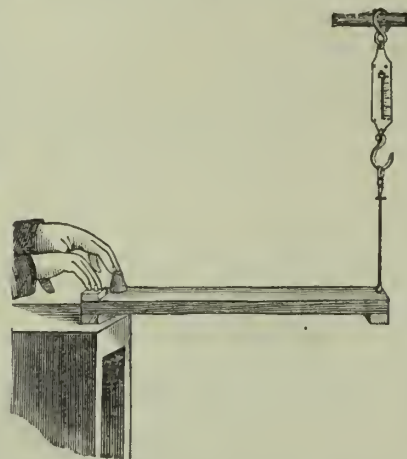
Experimental Investigation of a New Force.

A Spiritualist Among the Scientists.

The last London Quarterly *Journal of Science* contains an article from William Crooks, Esq., a gentleman well known in scientific circles, in which he gives the details (with illustrations) of some experiments which he has recently made, with Mr. D. D. Home, the celebrated "spiritual medium," so called. The experiments were made in the presence of Dr. Wm. Huggins, the distinguished astronomer, and Edward W. Cox, a well known London lawyer. Both of these gentlemen endorse the statement put forth by Mr. Crooks. We condense from the article in question as follows:

The object of these experiments were first,—to test the genuineness of the phenomena produced, and, second,—to account, if possible, for their occurrence.

The first experiment was the production of musical sounds upon an accordion, under conditions which rendered the contact of hands to actuate the keys a physical impossibility. Mr. Home first held



the instrument in his left hand, reversed—the keys hanging down. When thus held in suspension, tunes were played on the lower or key-board portion of the instrument, at the same time oscillating back and forth. After this exhibition, Mr. H. let go the instrument entirely, and it still continued to give forth harmonious sounds as before, while floating about, with no visible means of support!

His next experiment was quite as remarkable, and consisted in the employment of a board 36 inches long, with one end resting upon a firm support, while the other was hanging to a delicate spring balance, as shown in the engraving.

Mr. Home placed the tip of his fingers lightly upon the extreme end of the board which rested upon the support, while Mr. Crooks and his assistant watched the movements of the indicator of the balance. The pointer almost immediately descended, and continued to oscillate up and down at short intervals, for some time. The additional weight indicated at the opposite end varied in the oscillations from 3½ to 6 pounds. Mr. Home then, of his own accord, took a small hand bell and a little can match-box, which happened to be near, and placed one under each hand, as shown in the engraving, to show, as he said, that he was not giving weight to the opposite end by pressure. Afterwards, in order to test the effect of simple pressure, Mr. Crooks applied his entire weight (140 pounds) by stepping upon the point where Mr. H. placed his fingers. The result was a depression of the pointer 1½ to 2 pounds, when he jerked down—produced, as he supposed by his toes projecting a little over the fulcrum, which was carefully guarded against during the contact of Mr. Home's fingers with the board.

The above experiments were not confined to a single evening; but were repeated some half a dozen times, always attended with essentially the same phenomena. Many other experiments were also tried and were attended with almost or quite equally remarkable phenomena.

The above facts are given in the *Journal of Science* quite in detail and with elaborate

rate illustrations, which show the utter impossibility of any trick or collusion being resorted to by Mr. Home.

The conclusion to which Mr. Crooks and his assistants arrive is "the existence of a new force in some unknown manner connected with the human organization, and which for convenience may be called Psychic Force."

Respecting the nature of this force and the correlation existing between it and other forces of Nature, Mr. Crooks does not hazard even the most vague hypothesis.

Both Mr. Huggins and Mr. Cox fully endorse the statement of facts set forth by Mr. Crooks, and Mr. Cox, in his endorsement remarks that—"The results appear to conclusively establish the important fact that there is a force proceeding from the nerve system, capable of imparting weight and motion to solid bodies within the sphere of its influence." He also adds—"I can find no evidence tending to prove that this force is other than a force proceeding from or directly dependent upon, the human organization, and it is therefore, like all other forces of nature, wholly within the province of strictly scientific investigation."

Mr. Crooks, in concluding his remarks says: "In the presence of strange phenomena, as yet unexplored and unexplained, following each other in such rapid succession, I confess it is difficult to avoid clothing their record in language of a sensational character. But to be successful, an enquiry of this kind must be undertaken by the philosopher, without prejudice and without sentiment. Romantic and superstitious ideas should be entirely banished, and the steps of his investigation, should be guided by intellect as cold and passionless as the instrument he uses. Having once satisfied himself that he is on the track of a new truth, that single object should animate him to pursue it, without regarding whether the facts which occur before his eyes are "naturally possible or impossible."

It may be proper to mention, further, in this connection that the most elaborate measures were taken to prevent any deception on the part of the medium. The experiments were made at Mr. Crooks's residence, and the room and all the apparatus was prepared by Mr. C. himself. On the special trial here detailed, and which was designed for a crucial one, the accordion was purchased by Mr. Crooks on the day the experiments were made. Mr. Crooks, when he called for Mr. Home, accompanied him to his dressing room, when he (Mr. H.) disrobed himself, and put on an entire change of garments, so as to prevent the least suspicion of there being machinery about his person to assist in the development of the phenomena.

The undoubted character of the gentlemen named, and their well known scientific and critical acumen, must place the existence of the facts which they detail entirely beyond all reach of cavil, by their brother scientists.

ORIGIN OF HAIL.—Prof. Reinch announces that it is impossible, in the present state of our knowledge, to proclaim a theory which shall satisfactorily explain the origin of this meteorological phenomenon.

Thus it may be safely asserted, (we quote from *Journal of the Franklin Institute*) that the conditions originating it are different from those producing the deposition of rain or snow, or that these conditions are more intense in character; yet a microscopic examination of hail proves that the conditions originating it are by no means always the same, for the structure of the product is rarely the same. He mentions the curious fact that in some hail which he examined beneath the microscope, there was found at the centers of the stones a spherical globule, which proved to be air. When those globules were nearly freed by the melting of their icy confinements, they burst the last portions of the shell with energy, and expanding, occupied in a bubble form a space more than fifty times greater than when confined; showing that they had been subject to a pressure equivalent to more than fifty atmospheres! Cold may possibly have had some part in this diminution of volume; but the temperature necessary to produce so great a reduction in volume must have reached—214° C. at the point where the hail was formed—if cold had been the only cause in play. Whatever explanation is assigned to this interesting observation, it must certainly be regarded as the most unexpected one which has yet appeared to the study of this puzzling phenomenon. Prof. R. recommends the diligent use of the microscope as the only means of solving the problem of the history of hail.

CORRESPONDENCE.

Small Farms.

EDITORS PRESS:—Small farms make near neighbors, they make plenty of good roads, they make plenty of schools and churches; there is more money made upon them in proportion to the labor; less labor is wanted, everything is (generally) kept neat, less wages have to be paid for help, less time is wasted, more is raised to the acre, because the land is better tilled, there is not so much watching of hired men and the mind is not kept in a worry, a stew or a fret all the time. There is not so much fear of a drouth, of wet weather, or small prices. There is not so much paid out for agricultural implements. The wives and children on small farms have time to read and improve their minds.

"A small horse is soon curried," and the work on the farm is generally pushed forward in season, and the accounts are more easily kept. There are more failures on large farms than on small ones. Give us small farms for comfort; aye, and give us small farms for profit. "A small farm well tilled, and a small barn well filled."

A Good Way to Oil Harness.

Have a piece of sheet iron nailed to a board, two by three feet in area. Lay the pieces of harness to be oiled on this and go over with a paint brush, and such parts as wear most, apply oil twice in not too great quantities. For the best oiling, use one-third castor oil, two-thirds neats-foot, mixed. The next day wipe the harness with a woolen cloth. I use some castor oil for the last coat, because it will stand the changes of the atmosphere better than neats-foot oil alone; consequently the harness does not require oiling so often. One pint is sufficient for one harness.

C. L. SEE.

Nicolaus, August, 1871.

The Eucalyptus.

EDS. PRESS:—Your issue of Aug. 5th, contains allusions to the use of Eucalyptus leaves medicinally as a remarkable cure for wounds, and to Eucalyptus cigars smoked as a remedy for diseases of the larynx, and as a substitute for tobacco.

Perhaps some information about the plant from which these leaves are obtained, may be of interest to your readers.

Eucalyptus is the botanical name of a large family of trees in Australia, quite as numerous and common there, as oaks in our American forests.

Species of this tree are also found in Van Dieman's Land, or Tasmania, as that island is now called.

Some forty different species are known and described by botanists, and the largest timber trees of that comparatively unknown region belong to this family.

Its common English name in its native country is Gum-tree, and its varieties are distinguished as Brown Gum tree, Red-Gum-tree, and so on.

The smallest kind is a shrub some six feet high. But between twenty and thirty feet is the common height of its smaller varieties, while the tallest species, *Eucalyptus globulus*, or Blue Gum-tree, is known to attain a height of more than three hundred feet, and in this respect rivals the pride of our mountain forest, the giant redwood, or "big trees."

It is closely allied to the almond and peach tree to which the leaves and flowers of some species bear a strong resemblance. The tallest variety is called *globulus*, because it produces a globe-shaped fruit somewhat like a peach.

One kind is quite an ornamental tree, has a large white flower, and is noted for its beautiful leaves which are from four to six inches long, of a pale green color, bordered with a narrow margin of rich red.

From the bark of several species of Eucalyptus a superior quality of tannin has been obtained. It was introduced into England upwards of forty years ago, and tanners have found it to be twice as powerful as oak bark in preparing leather.

The variety which has long been known for its medicinal qualities is the Red Gum tree, *Eucalyptus resinifera* or resin-bearing Eucalyptus, so called because it produces a resin, similar to the Kino of the druggists, and of a strong aromatic odor.

Will not some your correspondents inform us if this is not the species now so

successfully used in the treatment of wounds and diseases of the throat?

It may be well to mention that the name Eucalyptus is from two Greek words and means well covered, alluding merely to a peculiarity in the flower buds of these trees. The tips of the buds are covered by a lid or cap, which fits nicely upon the calyx, or cup of the flower, and entirely conceals the ends of the flower leaves.

In the act of blooming, these lips are thrown off. W. W.

Thorough Cultivation.

EDS. PRESS:—The present year seems to offer a most favorable opportunity to impress upon the farming community, the advantages of deep plowing and thorough pulverization; the latter being in my opinion the most important of the two. The plow should be promptly followed by harrows and drays before the clods have time to harden into the semblance of stone, which they are sure to do if allowed to lie exposed to the sun for two or three days.

I have observed closely for two years past, and although our rain fall has been but 9½ inches, all lands that have been well pulverized to a depth of 12 inches have remained constantly moist during the driest part of the season, to within three inches of the surface. Pulverized soil is a non-conductor of heat and the moisture constantly rising in all soils is condensed and remains; whilst on hard, compact soils the heat penetrating to three feet, the moisture evaporates, and is lost.

Gang Plows.

It is my candid belief that gang plows are answerable for more bad farming than any other one cause. A single plow cannot be held steady so as to work at a less depth than three inches, but I have seen gangs run at a depth of 1 in., 1½ in., 2 in., etc.—the seed sown on the hard ground and a thin skin of earth thrown over it. So far as I have seen the average depth of gang plowing is from two to two and a half inches, and they are generally so constructed, that they will not penetrate more than four inches. Others, better planned, will turn the soil six, eight, and even ten inches.

I have a plow styled the Eureka gang (two plows) bought of Marcus C. Hawley & Co., San Francisco, with which I can plow fifteen inches deep with a team of six medium sized horses, turning from three to six acres per day, depending upon the condition of the soil. With it I have broken up land to a depth of six to eight inches that could not be plowed with ordinary plows.

But what we want not only here, but in all the great valleys of the State are steam plows. We have thousands upon thousands of acres of level land without an obstruction in the shape of a root or a stone; with a steam plow to put in the crop, thresh it and haul it to the landing, farming would be relieved of its drudgery, expense decreased and the profit largely increased.

I am confident that a steam wagon equipped with plows and freight, could make a handsome thing in job work, as but few farmers have sufficient teams to break up their land as it ought to be, and would gladly pay to have it done for them.

The corn crop of this valley promises to be fully equal to that of last year; the great bulk of it has escaped the grasshoppers. WM. R. OLDEN.

Anaheim, Aug. 18th, 1871.

Colorado to Utah.

BY OUR OWN TRAVELER.

I left Denver at 7½ A. M., passing through Evans and Greeley cities on the road.

Greeley City

Has, I understand, about 1,500 inhabitants. There are about 500 houses and two hotels. The place is one mile square. They have invested \$4,000 in building ditches for the purpose of irrigation. There is at present upwards of 50,000 acres of land in cultivation in the vicinity and the property is valued at nearly \$800,000. This is the largest settlement between Denver and Cheyenne. Evans and Greeley are the principal cities in this county. I arrived at

Cheyenne, Wyoming Territory,

At 12 o'clock, where we connected with

the westward overland train of the U. P. R. R. We had ample time to partake of an elegant dinner at the R. R. station, a large house kept by G. M. Jones.

Cheyenne is the commercial center of Wyoming, situated in the valley of Crow Creek at the eastern base of the Black Hills, about 500 miles east of Salt Lake City. It derives its importance from the fact of its being a distributing depot of supplies for the trade of Wyoming and a part of Colorado. It is the junction of two lines of railway and another line has been organized under the name of the Cheyenne Iron Mountain & Helena R. R. The latter is to extend by the way of Forts Fetterman, Reno, and Phil Kearney, along the eastern base of the Big Horn Mountains to the Yellowstone river and to Helena, Montana, intersecting the Northern Pacific. This route will open up a country rich in mineral and agricultural resources.

Cheyenne contains about 2,500 inhabitants. There are immense masses of very rich iron ore found just north of the city. It is expected that when these leads are developed and the iron brought to Cheyenne for manufacture it will materially advance the prospects of the place. There are five churches, the Catholic, Episcopal, Congregational, Presbyterian, and Methodist. The city is watered by a ditch from an adjacent creek and small streams run along the sidewalks for the purpose of irrigating the trees which will in course of time tend to enhance the beauty of the place.

At 1:15 p. m. I took my seat in the finest Pullman Palace Car

On the U. P. R. R., known as the Palmyra. This car has six-wheel trucks and weighs 35 tons, almost as much as a freight car loaded with goods. It contains 28 beds and, there being one of Burdett's fine organs, some of the passengers amused themselves and us, by playing in the evening. After tea we sang some

Songs and Old Hymns,

The clear soprano voices of the ladies chiming in with the harsher, but still harmonious tones of the men, made the car ring with solemn notes, blending sweetly on the evening air with the steady rolling accompaniment of our carriage, drawn on by its remorseless, untiring master, the oft-mentioned "Iron Horse," the sure signal of civilization and advancement.

After the sun has gone down in all its glory of purple and gold, and we have enjoyed our evening smoke, which no one appreciates so much as a traveler, for a cigar is a companion we can always "fall back" upon, failing congenial friends, we betake ourselves to our couches, where one can sleep as comfortably as in a hotel. Moreover, we are sung to sleep by the rattle of the rail which is far from disagreeable to one accustomed to railroad travel. These cars are made by the

Pullman Palace Car Company,

Which was organized in 1867 in Chicago, with a capital of \$1,000,000, and it now has in its leased and co-operative agencies, a capital of \$8,000,000. Moreover, it gives employment to over 3,000 men in its "running" department.

Railroad Traveling made Luxurious.

Like the labor-saving inventions of this century, this enterprise transforms into pleasure what was heretofore at best, attended with weariness and danger. Now from the Pacific to the Atlantic, we can travel without anxiety, and the good management, care and courteous vigilance of the agents enable us to travel with safety, and moreover, have all the comforts of a home without the inconveniences generally considered indispensable. The Pullman Pacific Car Company has charge of the sleeping cars on the U. P. R. R. No. 21 sleeping car being under the general superintendency of Mr. L. M. Bennett and Mr. Geo. M. Pullman, President and General Manager.

Sherman

Is 1,365 miles from San Francisco. It is situated at an elevation of 8,242 feet. I have a fine sample iron ore which is found in large quantities one-half mile from the station. It was given to me by John Harich, better known as "Uncle John." It is said coal can be had about thirty miles distant. I also secured a fine shell found on the top of one of these mountains only a mile from this place. It is very manifest from this and other evidences that this was at one time, ages ago, the bed of a large body of water or sea. The rocks seem to be washed and stand up promi-

nently in many places. A few miles distant may be seen what are known as the "Red Buttes." I learn that we are traveling at the rate of 20 miles an hour. On the "west end" the grades are heavy hence the slow time.

This train left Omaha at noon on the 5th of July and passed west 132 miles. At "Lone Tree" station they encountered a terrible hail storm and I learn from the conductor and passengers, that this was the largest and heaviest storm they had ever seen or heard of. Passing on we arrive at

Laramie City

Which is 575 miles from Sacramento and is at an elevation of 7,122 feet. Passenger trains stop here 30 minutes for meals. Cozzen's Hotel belonging to the R. R. Co., is a fine building. Mr. L. Fillmore is Supt. of the Western Division from Cheyenne to Ogden, and Mr. S. H. H. Clark Supt. of the Eastern division from Omaha to Cheyenne.

Passing the night and the next day in the cars we find ourselves at Ogden and from here we will make a trip to the famous mines of Utah.

A Handsome Acknowledgment.

MESSRS. DEWEY & Co.: We hereby acknowledge the receipt of the patent papers for our improvement in wheels for traction engines, and also the notice that the improvement on tubular boilers had been allowed; and in this connection we think we should exchange congratulations for the uniform success that has attended your applications for us, this being the twelfth patent we have obtained through your agency, within ten months, for our American Overland Steamer—a success due to the careful and full preparation of the cases before they leave your office, and a thoroughly live man to attend to them when they arrive in Washington; and perhaps we might modestly add, the intrinsic merits and originality of the ideas themselves. Such promptness and success in obtaining patents we think unparalleled.

Respectfully yours, O. HYDE & Son.
Oakland, August 1, 1871.

FALLING OF THE LAKES.—The Yreka Union recently gave these interesting facts: Professor Godfrey informs us that the lakes in the eastern part of the county are lower now than they have been known before for several years. It is well known that emigrants who came into California in 1849 and up to 1852 by the Lassen trail, did not recognize the lakes in Surprise Valley as being anything more than mere alkali mud flats; and, in fact, they gave to them the not very dignified appellation of the "Mud Lake." Since then, however, they have filled up with water, and for many years have been quite imposing, both for their dimensions and depth. The Professor informs us that at present their dimensions are greatly contracted, and they have become so shallow that it is perfectly practicable to cross them on horseback. It is well known, also, that Goose Lake, from 1849 to 1852, had no visible outlet. In fact, we have often been told that the trail passing along the southern body of the lake, by which the emigrants to this country and Jackson county, Oregon, traveled in 1852, was several miles to the northward of what has been the southern boundary of the lake for several years past. It is also true that for many years past, a large stream has flowed out of it, which has been the largest branch of Pitt river. The Professor says the waters of the lake have again receded and that it has ceased to flow; that the "slough," so-called—the stream that for many years has run out of it—is now dry. We presume these rather remarkable phenomena must be due to the unprecedentedly small amount of snow and rain which has fallen during the last three or four seasons. The springs in the mountains—the unfailing sources of supply in ordinary seasons—have dried up.

A DESERTED NEVADA VILLAGE.—The Eureka Sentinel tells of a genuine "deserted village" in Danville mining district, some 60 miles south of Eureka. Five or six years ago the village was quite lively, and now "a death-like stillness reigns; not even is this painful quietness relieved by the hooting of an owl or the quack of a buzzard. The doors of the twelve unoccupied log cabins swing listless to and fro at the bidding of the fitful winds. The grass in the deserted streets is now waist high, with no living soul to trample or recuperate upon its fattening virtues. There is a fine stream of water running through the town, and plenty of wood immediately surrounding this depopulated camp." Some one informs the Sentinel that he found ore that would mill \$100 per ton.

HOME AND FARM.

The New Force.

We have devoted considerable space, elsewhere, to a synopsis of a very lengthy and remarkable paper, published in the *Quarterly Journal of Science*, by the eminent London chemist, Dr. Crookes. The article as will be seen, is descriptive of a certain class of phenomena, known as "spiritual manifestations." These phenomena have heretofore been rejected by scientists as mere tricks of ledgerdmain; but with a singular persistence our learned men have utterly refused to make any special effort to verify their opinion, or disabuse a certain class of minds of the superstitious notion that they are supernatural, and independent of all possible laws connected with the human system—that they are produced by the spirits of the dead who revisit the earth and manifest their presence by all sorts of performances, etc.

Dr. Crookes, and his associates have done a good work for the public and for the cause of science, in thus grappling with this question, reseuing it from the domain of superstition and ignorance, and placing it within the proper sphere of physical investigation. It is to be hoped that the work thus happily begun will be continued, and that the phenomena which must now be considered as real, (albeit they are often much mixed with tricks of ledgerdmain) will be subjected to a crucial trial of the scientific touchstone.

The new force to which the learned Doctor refers this class of phenomena, he calls "psychic" or *soul force*—a force independent of, or which underlies all muscular action. The existence of such an underlying force has in fact long been recognized by both the scientific and the unscientific, as developed in many of the phenomena connected with animal magnetism, and one which has never been proved to be identical with any known physical force; but that this force could move inanimate objects, without the intervention of physical means, has hitherto been denied, in toto, by the scientific world; and its reference to a psychic or soul origin, or to whatever other source, is a matter about which our scientists have not heretofore interested themselves. The legitimate consequence of such neglect has been that near half the civilized world has been led into the superstitious idea that such manipulations can come only from departed spirits—forgetting that the spirit *still within us*, and always "present" would be far more likely to possess the remarkable powers so generally attributed to "departed" spirits.

With this understanding of the question there would not, after all, be such a wide difference of opinion between the modern "spiritualist" and the one who accepts of the new theory of "psychic" force, as is generally supposed.

We do not, however, know whether Dr. Crookes and his associates use the term "psychic" in its full and legitimate meaning or simply as a convenient form of expressing an unknown power. But whatever may be the idea which they attach to the word, we are quite sure that if the work which they have undertaken will attract a large share of attention, and result in much good to humanity, and social and scientific progress.

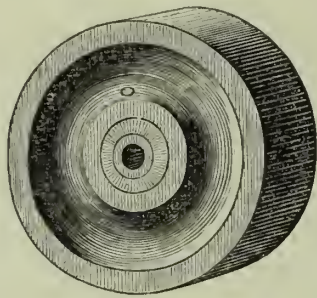
A FINE POULTRY SHOW.—The California Stock and Poultry Association made a very full and interesting exhibition on Friday and Saturday last. The exhibit consisted of a large number of rare varieties of hens, ducks, turkeys, pigeons, etc., from the lot recently brought out from the East by Mr. T. Finley, the Agent of the Association. This was the largest and most complete exhibition of poultry ever made on this coast. Many of the birds were real curiosities. Mr. F., in addition to poultry, also brought with him a number of "Chester White" Essex pigs, from the farm of Sam. Brown, Milbrook, N. Y. The entire number of all kinds brought out by him was something like 600.

An Improved Bearing for the Wheels of Roller Skates.

Iron and steel have been tried as bushing or bearing for the wheels of roller skates, and have been found wanting, from the fact that both these materials wear quite irregularly, and, moreover, require the use of oil, for lubricating, which is found very inconvenient, from the fact that it often seriously defaces clothing, etc., with which it comes in contact.

To remedy these defects, ivory has been substituted, which requires very little oil, is always clean and without stain, runs easier than metal, and is quite as durable. Sets have been used in this city, daily, for three months, without deterioration, the wear being even and smooth. On the ordinary skates, when the body is thrown forward, the wheels are very liable, when worn, to hold back and throw the skater. This difficulty is done away with in the use of ivory, for there is less friction, and consequently an easier motion is produced.

By the use of skates provided with these wheels a greater speed can be attained, and with less fatigue, than is usual; and by their smoothness of action the feats usually performed by more accomplished skaters can be done with greater facility and grace. Rollers with ivory bearings are rapidly being adopted by experts and professional skaters. A patent for this in-



COOK'S IMPROVED SKATE ROLLER.

vention has been obtained through the agency connected with this office. The inventors, Messrs. S. P. & H. B. Cook, of this city, are ready to furnish the rollers, with their patent ivory bushing, to makers or users of skates.

For further particulars address M. Cook & Son, Box 1124 San Francisco.

The Atlantic Hop Crop.

Emmet Wells circular, underdate of Aug. 2d, says that the previous week has been one of considerable excitement in the hop trade, on account of the unfavorable aspect of the incoming crop. An advance had taken place of from one to three cents per pound, with a prospect of still further advances. Prices are already better than in London.

The injury to the crops was due to an excess of rainy weather in several of the hop districts in New York, and an increase of vermin. The reports from Wisconsin and other Western States are also discouraging, while California is expected to come in with a small yield. In some localities there is still a good prospect for a fair crop. The hop-lice and a kind of honeydew which so troubles this plant at the East, have never yet been encountered in this State.

The Hop Crop in England.

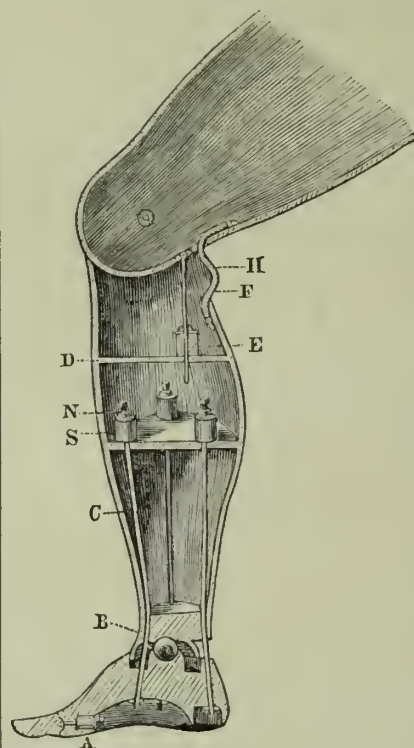
Letters of July 23d, addressed to Mr. Wells report that small sections of the Weald and Sussex give promise of a small yield of from two to five cwt. per acre, but the larger portion of these districts are unimproved, and are fast lapsing into blight. The favored districts, in Mid and East Kent, have been further attacked by vermin, and have the appearance of falling into the same state as the worst grounds in other places. The market is very firm, but with a demand which is not at all commensurate with the above unfavorable prospects. The finest grades of American both old and last year's growth, are in active demand, and a large amount of business is passing at advanced rates.

Dr. Bly's Anatomical Leg.

We insert herewith a sectional elevation of a new artificial leg, which has recently been invented, and introduced to the public at the East by the inventor, and which has more recently been brought to this coast by Mr. Menzo Spring, who has established a manufactory for the same, and other artificial limbs, at 101 Jessie street, near the Grand Hotel, in this city.

To obtain an artificial leg, with all the varied motions of the natural one, has been the study of anatomists and mechanics for many years, and the present degree of perfection has been reached only by slow de-

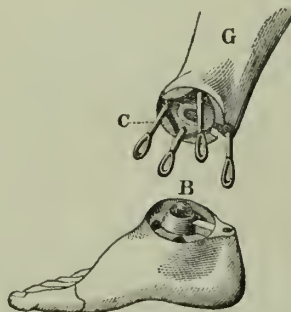
Fig. 1.



gresses and with the most patient experiment and observation. Bolts and pins were largely employed by the earlier inventors; but the constant wear of such things soon rendered them loose and shackley and next to useless, while at best they were only poor substitutes for the bones, muscles and sinews of nature.

Dr. Bly has endeavored to imitate nature

Fig. II.



as closely as possible, and to that end starts with a universal joint at the ankle, which approximates as near to nature as art can approach.

Referring to the accompanying illustration, the ankle joint is formed by a ball, B, of polished glass, plying in a socket of vulcanite of india rubber, which is a joint that admits of every motion that the natural ankle does, without an exception, and is the first joint ever invented which never requires oiling.

S represents three of the four india rubber springs, which take the place of the muscles of the natural leg. C represents the tendons which pass through the springs with screw-heads on the upper ends. Only three are shown in the figure here, but the lower ends of all four are shown in Fig. 2. N, the nuts by which the tension of the tendons and springs are regulated to suit the wearer; and E, the spring which operates the knee joint.

The ankle joint is made without iron or any kind of metal, therefore the leg is extremely light—much lighter than any other. The liability of metallic joints to rattle and make a noise, after the leg has been worn a short time, is well known, and the annoyance which it causes the

wearer at every step is also well known. Now, as there is no metal about this, there cannot be any noise. The joint is formed by a ball of polished glass, plying in a socket of vulcanite of rubber. (See Fig. 2).

This joint accomplishes the great object which all artificial leg makers have hitherto sought for in vain, viz: it admits of motion in all directions, like the natural ankle joint, and thereby allows the artificial foot to accommodate itself to the varied inequalities of the surface, the same as the natural foot. It often enables those who wear it to walk so well, that it is not even suspected, much less detected. Furthermore, this is a joint which requires no oil, a fact of no little importance, as those will testify who have worn legs with metallic joints, and been obliged to carry pocket oil cans.

In the places corresponding to those occupied by the muscles of the natural leg, are placed india rubber springs with tendons, as shown in our illustration, extending downward in place of the natural tendons; and it is quite interesting to see how well the action of the rubber springs imitate those of the natural muscles. These rubber springs or artificial muscles, together with the ball and socket joint, produce every motion of the natural leg, without an exception.

The power and action of all the springs are regulated simply by turning a nut, so that the wearer may adjust them to suit his own peculiar gait, with great nicety.

Instead of the mechanical motions given a limb by metallic springs, the rubber springs impart easy, uniform motions to the limb, like those of the natural muscles, which give it, when in use, a remarkably life-like appearance.

In walking, when the weight of the body rests on the ball of the foot, the spring representing the gastrocnemius and soleus muscles is firmly compressed, and when the weight of the body is thrown forward on to the other foot, the spring rises and carries the foot forward to its place, with very little effort of the wearer. By the action of this spring, lifting the foot in a great measure and carrying it forward, the wearer is materially relieved from the greatest burden of artificial legs, viz: weight.

When walking, if one side of the foot happens to be placed on a stone or elevation, or into a hole, the mobility of the ankle joint allows the foot to yield just enough to accommodate itself to the inequality, and thereby prevent straining the stump, or stumbling or falling, which necessarily takes place more or less with all legs which do not admit of lateral and diagonal motion at the ankle joint.

The knee joint is formed by an axial bolt plying in two segments of a circle, one of which is adjustable, to prevent looseness and noise.

The spring, E, operates the knee joint, and, assisted by the one just referred to, carries the foot forward at each step, with any degree of motion desired to suit the peculiar gait of the wearer; it being india rubber, and adjustable like the others.

The motion of the knee joint is limited and controlled by the cord, H, which takes the place of the crucial ligaments of the natural knee joint; consequently there is no unpleasant or painful jar, caused by the solid parts coming in contact, to limit the motion, as in the old fashioned legs. For further particulars, apply to Mr. Spring, as above.

The Overland Monthly for September.

This original and improving magazine contains its usual variety of amusing and instructive articles. The first discusses the probability of the success of Capt. Hall's Arctic expedition, another treats of the Mormon problem under the heading of the "Mahomet of the West," and another, entitled "Shakes," is one of those characteristic California stories for which this periodical is noted. Several other prose articles and a few in poetry complete the series which can be read without the interruption of continued articles—a source of gratification to most readers of magazines. We notice that in future issues the enterprising publishers intend to occasionally illustrate one or more articles, and that only such places and articles will be illustrated as will have special interest for readers on both sides of the continent.

GRASS is scarce about the San Bernardino mountains.

AGRICULTURAL NOTES.

CALIFORNIA.

SISKIYOU—GRAIN ON LITTLE SHASTA.—The Yreka *Union* learns that the grain crop on Little Shasta is turning out well. The crop is over an average. This is true with reference to all portions of the valley except the ranches of Davis Bros., Robt. Redding and perhaps a few others where the water, usually relied on for irrigation, failed the present season.

SECOND CROP IN SISKIYOU.—N. D. Julien, says the Yreka *Journal*, cut down a crop of grain this spring for hay, supposing it would be unfit for threshing, and since then the same crop has grown up again in excellent condition and is heading out finely, being superior to any of the volunteer crops in the valley. This is considered by the farmers as a very remarkable thing, none of them supposing such a result would occur under the circumstances.

Valleys in the eastern part of Siskiyou county are yielding immense crops of grain.

GRAIN CROP IN SCOTT VALLEY.—In last week's issue says the same paper, we stated that the crops the present season in Scott Valley, on the dry lands east of the river, were not turning out well. The crops on the west side of the river, however, where the land is moister, and the grains later in maturing, are said to be very good. The yield is up to the average and the grain plump and full.

The farmers of Tehama county have nearly finished threshing, and many have disposed of their grain, and are now settling up their business.

A few days ago, says the Marysville *Appeal*, Mr. Ashton plucked a bunch of Muscat grapes from a vine in the garden of J. M. Newhard, which weighed six pounds and four ounces.

Farmers of Sonoma have already commenced hauling in their grain, and every body is encouraged at the flush times ahead.

MENDOCINO—THE CROPS.—It is certainly very encouraging to the farmers of Mendocino says the Ukiah *Press*, to know that no matter how dry the season may be, there is never a failure of crops here. In many portions of the State the grain crops have been an entire failure, while in other parts the yield will barely be sufficient for home consumption, yet in this country the average yield has been as great as usual. We are informed that throughout this valley the yield has been less than twenty-five bushels to the acre, and in many cases as high as fifty. The corn at present growing looks fine and healthy, and the crop will be equal if not superior to that of any previous year.

THE GRAPE INTERESTS OF NAPA.—We believe the extent and importance of the grape culture in this county, says the Napa *Register* of August 19th, is not fully appreciated. It has grown up by almost insensible degrees, and promises, in a few years, to almost dwarf every other branch of agricultural production. A gentleman who is thoroughly conversant with the subject has kindly furnished us with many points of information, which we present to our readers, remarking, however, that while exactness in such a matter is not easily attainable, close approximations to the truth are of considerable value.

It is estimated that we have now fully 1,000 acres of Mission grapes in full bearing, and about 500 acres of foreign grapes. At least 15 per cent. of this number has been planted within the past two years, all of which are in a thrifty condition.

There are over thirty vineyards, from 5 to 100 acres, in Hot Spring township alone, the names of some of the proprietors of which we give: Dr. G. B. Crane, H. L. Amstutz, J. York, Widow Hudson, Chas. Krug, Dr. Davis, Mrs. Perkins, H. Risley, H. Johnston, J. H. McCord, J. Lewelling, G. Backus, H. A. Pellett, Dr. D. K. Rule, D. Hudson, Col. Sayward, D. Edwards, David Fulton, A. Tainter, M. Vans, Glaque Bros., P. H. Summers, Silvey, Hon. E. Stanly, General E. D. Keyes, C. D. Smith, J. Weinberger, J. G. Francis. There are many others whose vines are newly set, but which will, in a year or two, tell upon the result. Besides which, there are extensive vineyards in the lower part of the county, among which may be named that of J. J. Siegrist, of 60 acres, of which 40 acres are old Mission grapes; that of Wm. H. Woodward, of 80 acres, mostly foreign varieties, and that of T. J. Dewoody, of 20 acres of foreign vines.

Several of the vineyard proprietors make wines from their own grapes, and a few purchase from other proprietors.

The distilleries of brandy, in operation, are the very extensive ones of G. Groezinger, at Yountville, and of Chas. Krug, W. H. McCord & Co., St. Helena, and of W. H. Woodward, of Napa.

With all these means for absorbing the crop, added to the market for table use, we hardly understand how the immense prospective crop of this year can be made use of. At a moderate price, the grape crop will bring an amount of money into the county second only to the wheat crop.

NAPA GRAIN RECEIPTS.—Yesterday, says the Napa *Register* of August 19th, we visited the several warehouses in this city and ascertained that up to that time the total amount of wheat then on storage, was estimated at about 72,000 sacks. Wheat is beginning to arrive freely and we are pleased to note that more than three-fourths of all the grain brought to town this season arrived by teams instead of by rail.

BOULDIN ISLAND.—E. B. Dorsey (says the San Joaquin *Republican* of August 18th), who had the management of reclaiming Bouldin Island, in this county, gave us a call this morning, and from him we learned that the island contains about 7,000 acres, which has been thoroughly and successfully reclaimed at a cost of about \$6 per acre. The work of reclamation was commenced in February, and finished in ninety days from the time of beginning. They have this season raised a large quantity of vegetables, and the coming year they will put in a crop of wheat. From the success attending like enterprises in this State, there is no doubt of the fact that the money expended will pay a better percentage than money in bank, or invested in uncertain quartz mines, be they gold or silver.

TWITCHEL ISLAND—LARGE YIELD OF GRAIN.—The San Joaquin *Republican* of the 10th instant says: A gentleman of Twitchel Island, to-day informed us that about thirty acres of the reclaimed land on that island has yielded this year seventy-eight bushels to the acre, and there was one hundred acres more on the island that would give the enormous yield of one hundred bushels to the acre.

CROPS IN CARMEL VALLEY.—A correspondent of the *Bulletin*, of this city says that most of the farmers in this section have managed to save a tolerable crop of hay, and what little grain there is to be thrashed, is likely to yield fairly per acre. Pumpkins, corn, beans, etc., are mostly half crops, or worse. Potatoes on the uplands are inclined to take second growth for lack of moisture; those in low damp land are looking first rate. One bean field in the vicinity presents a remarkable instance of the fact, that not only the treatment of land during the current season affects the crop, but that the moisture remaining from the previous year also has much to do with the result. The field in question is owned by A. M. Basquez, and was last season put half in barley and half in beans. This year the whole was plowed three times and planted with beans. The part on which the barley grew last year has been in the "sere and yellow" leaf some two or three weeks, while the part that was well cultivated to beans last season is but just becoming so. The yellow was so distinctly separated from the green, though across the line of the drill, that the veriest tyro in matters agricultural must have been struck by the peculiarity.

STANISLAUS—MODESTO TRADE.—The Stockton *Independent* says that 3,000 head of cattle per month have been shipped by rail from Modesto, for the last three months, and 1,500,000 pounds of freight were received at that place during the month of July. The shipment of wool from the same place this season has been greater than was expected, amounting to 1,691 bales, while the number of passengers average about 2,000 per month each way.

MONTEREY CROP REPORTS.—From the Castroville *Argus* we glean the following: Castroville has during the past week commenced to be quite lively. The teams in all the various parts of the valley, forming quite a throng, invariably stop, either on their way down to the landing, or on their return. The reports of yields still continue favorable.

P. M. Jacks informs us that all the threshing on the De La Torre ranch is completed and hauling just commenced. Mr. Jacks had on this ranch 75 acres of barley that averaged 22½ sacks per acre, and on 200 acres of wheat, 15 sacks per acre of a superior quality.

J. E. Lee, on land three miles above, has got from 200 acres of wheat 13 sacks per acre.

John Bowry has 120 acres of the Castro ranch from which he has averaged 13 sacks of wheat per acre.

Dr. E. N. Boynton is experimenting in opium culture at Napa City. Thus far prospects are favorable.

Salinas valley pastures are in demand.

Corn, in the Lake District, Fresno county, is looking well.

Routier, of Folsom, has shipped to the Sacramento market during the past two weeks, over a 1,000 boxes of fruit of the best variety and quality from his modern orchard.

The wheat crop of Santa Clara valley, although less in quantity, is better in quality than heretofore.

A writer for the Ventura *Signal* says that Santa Barbara county is swarming with squirrels: "They steal our potatoes, corn, barley, grapes, and in fact, threaten to take the very bread out of our mouths."

OREGON.

A meeting of the Jackson county Agricultural Society was held on the 5th inst. to make arrangements for holding a County Fair.

BOUNTY FOR WOLVES.—The farmers in the neighborhood of Sublimity, Marion county, have formed an association to clean out the wolves in that section. They pay \$35 each for every wolf killed.

NEW SYSTEM OF CLASSING WOOL.—The Walla Walla *Union* says that a new system has been introduced this season in Umatilla county in the getting up of the wool, previous to being sent to the market, by classing it according to quality, age, sex, &c. This has been strictly carried out in the clip belonging to Major Barnhart on Wild Horse creek, and the result is that gentleman has received 40 cents per pound for his wool, a price obtained far beyond any other wool grower in Umatilla county, and nearly double that received by some of the wool growers in this Territory. This system has been devised by Mr. Wm. Watson, in charge of Mr. Barnhart's flock, who has had great experience in wool classing and the general management of sheep on an extensive scale in the Australian colonies, and is likely to be the introducer of many improvements in sheep husbandry in Umatilla county.

Another valuable improvement is in the introduction of his sheep drafting yards, which are now to be seen very complete on the Major's ranch. The flock masters that have inspected them are much delighted with them, and before long they will be general on every sheep ranch. The yards, we are told, are very ingenious, and save all handling and rough usage that the sheep were formerly subjected to. Three men can pass through the race, and by means of a swing gate, separate, or draft sheep as they wish, at about the rate of 400 per hour, a great improvement on the old system.

A valuable lot of Leicester sheep has arrived from New Zealand, consigned to Mr. Watson. This is the sort of stock that is wanted to make this one of the foremost wool growing countries.

HORSE RAISING IN OREGON.—Some idea of this business may be formed from the fact that 193 stallions have paid a license in the State of Oregon during the year ending May 1st, 1871. This is independent of a large number of low-bred, yet still valuable horses, whose progeny is by no means of a very inferior character.

It pays a farmer to raise a valuable colt. It is always a cash article, at a high price; and the raising of such colt, after paying for the service of the stallion, costs little more than the raising of a miserable scrub. Rev. Mr. Elliot, in his address at Salem, lately, said "the more the farmer knows, the better farmer he is." This is as true in regard to the profits of the raising of valuable horses, as of valuable sheep, or cattle, or hogs, or good crops, on a farm. And it should, and will, be the aim of the good farmer to grow the best stock, and the best crops—because in them are found the best profits.

PALMS ON SAN BERNARDINO MOUNTAIN. The Los Angeles *Star* says it is not generally known that a species of native palm grows luxuriantly in the cañons on the eastern slope of San Bernardino mountain. It bears a small black fruit of a sweetish taste, which is highly prized by the Indians, as an article of food. The fruit grows in a single cluster, about the size of a bushel basket.

AMADOR.—The *Ledger* says this is the driest season ever met with by the oldest resident of that county. Every small stream is completely dry, and there are not over three thousand inches of water in the Mokelumne River. Vegetation of all kinds has perished; shubbery, trees, etc.,

in gardens are fast perishing, and but few wells in town afford sufficient water for domestic purposes. It is hard to tell what will be the result if we do not have rain soon, and the prospect for that at present is not at all encouraging.

IRISH POTATOES.—A gentleman at the Mission Dolores in this city (San Francisco) has growing in his garden the hills of potatoes from seed which were carried from Ireland to Hobartown, Australia, thence to Victoria, Vancouver Island and brought from the latter place to this city.

MONSTER RADISHES.—The *Alta*, of this city has seen some radishes grown in the garden of James Wade, at the Mission, which measured sixteen inches in length, and were six inches in circumference. They weighed over a pound each.

LOS ANGELES PALM TREES.—On the premises of the late Victor Prudhomme, says the Los Angeles *News* are two palm trees, the larger of which is about 30 years old and flowers regularly every September, the blossoms being white and growing in clusters. The tree fully sustains the reputation for grace and stateliness. Its trunk is covered with a kind of natural matting to a considerable height and its foliage is fan like shape and of a perpetual green. Under its crown of leaves a large colony of orioles have made themselves a home, and their pendent nests give additional interest to this "stranger brought from burning lands." The tree is derived from a patriarch of the species planted generations ago by the padres of San Fernando Mission. Upon the same premises, is an ancient hedge of pomegranates, an old pear-orchard, several gnarled olives long since in bearing and a clump of young date-palms recently set out. Had all the old proprietors done as much to improve their places as the original owner of the Ramirez property this county would now be much in advance of the position it occupies.

COLORADO.

The crop reports from this territory are very encouraging—both as to the present prospective yield and to the general progress which is being made in agricultural industry in that distant territory. As an instance of productiveness we may mention the fact that it is estimated that a ten acre field of wheat near Burlington will average eighty bushels to the acre. This extraordinary result is due to plentiful irrigation. The actual results of this field are promised.

They have a "tip top ranch" in Gilpin county, which the editor of the *Register* thinks is the "tip top" farm of the world, as it is located at an elevation of 9,200 feet. It contains nine acres of potatoes and eight of oats, both of which promise a large yield. There are several other ranches nearly at the same altitude.

UTAH, ETC.

According to the *News* the grain and other crops of Webber county were never better in any previous season than this, the wheat being especially fine, both in point of quality and quantity, yielding, at the least calculation, forty bushels to the acre. Reports from many other parts of the Territory have a similar showing, indicating that the people have entered upon a season of prosperity that is exceedingly gratifying.

Good crops are being raised this season in places where comparatively nothing in the shape of grain has been produced for four or five years.

It is true there are trates of land in the Territory which have been almost completely laid bare by the grasshoppers, but notwithstanding this, there are good reasons for believing that, when considered in the aggregate, the crops will be at least a fair average. There is no doubt that there will be bread for all and a large surplus besides.

MONTANA.

Reports from this territory are also encouraging. The Deer Lodge *Independent* thinks that the finest field of wheat in the United State is in the upper end of Deer Lodge valley. The seed sown in this field is believed to be a new or at least a greatly improved variety. We shall refer to it again next week.

HUNGARIAN OATS.—The Helena *Herald* has seen a sample of the stalks of the celebrated Hungarian oats, which were introduced into Montana a year or two ago. These oats are five feet in length, and as thrifty as any that we have ever seen in Indiana, or any of the great grain-growing States.

Heavy land if reduced and pulverized, as it can be when completely dry, will not forget it in years.

FLEECE AND LOOM.

The Wool-Bearing Goat Business.

As there are now in this State over 30,000 Angora goats, of various grades, from one-quarter up to pure blood; and as many, not heretofore engaged in the business, are thinking of going into it, it will doubtless be interesting to many of our readers to learn something of the state of the Angora goat's wool market.

We believe there is little demand for this grade of wool in the United States, from the fact that no attempt has yet been made in this country to manufacture this kind of wool. The only demand for it in the United States is for trimmings and ornamental purposes; but we believe all that is offered is readily bought at fair prices for shipping to England, where about 7,000,000 pounds are annually worked up; but it is claimed that 70,000,000 would be taken if it was offered. The present English supply is mainly derived from Asia Minor, but the Cape of Good Hope Colony is rapidly increasing her annual clip of this wool, all of which goes to England.

We are not aware that any person is buying mohair in this city; if there is any person buying it he would doubtless find it to his advantage to say so through the columns of the RURAL PRESS.

Angora wool (known in commerce as mohair) is graded to "fair average" and "inferior." Fleeces from 15-16 blood and upwards to pure blood are rated as fair average; and those of $\frac{1}{2}$ up to $\frac{3}{4}$ are called inferior, and are sold according to quality.

The present price in Liverpool is from 85 to 90 cents per pound for fair average standard. The market is so brisk there that every bale is usually bought before its arrival. Messrs. A. Eutyehides & Co., 49 South Castle street, Liverpool, are authority for the above, in a letter lately addressed by them to the *Country Gentleman*.

The Angora Goat in Kentucky.

There are a few small flocks of Angora goats in the Mississippi States, mostly in Kentucky. Robert W. Scott, of Franklin county, in that State, writes to the *Lexington Observer*, as follows:

I have a flock of nearly 200 head of Cashmere or Angora goats, produced by crossing the pure bred Angora buck with the native or common females, now deep enough in the blood to produce wool long enough to be shorn and manufactured. This flock has cost me almost nothing; the sales which have been made and the meat and skins of the males and wethers from the flock, from time to time in the course of its production, having remunerated all expenses. I have recently received the account of the sales of my goats' wool at 65 cents per pound. To produce this wool costs me no more per pound than the wool of my "improved Kentucky" sheep, and yet 37 cents was the best offer I could get for my sheep's wool in Kentucky. Both the goat's wool and the sheep's wool were shorn and handled alike, and one produced 85 cents and the other 37 cents per pound.

The Angora as Food.

The flesh of the Angora is said to be very superior—firm, sweet, and palatable. Mr. Moses Allen, of Miners' Ravine, near Auburn, has disposed of a large amount of this meat in the Auburn market, where it has been subject to no exception, except being a little over fat for some tastes. The grade yearlings which he has killed and marketed have averaged from 40 to 50 pounds in weight, and have yielded from 9 to 8 pounds of tallow each. They received no food, except such as they obtained from their dams, or by browsing chapparel or other bushes and weeds.

Mr. Allen says they are as easily raised as a common chicken. He has lost but one goat from sickness for nearly two years. His herd now numbers 400.

In Solano county, quite a number of persons have devoted considerable atten-

tion to the introduction of the Angora goat, and among others, J. D. Brower, of Suisun, has quite a large herd of these valuable animals, at present pastured in the Vaca mountains. But perhaps the most extensive breeders in the State are Dr. S. P. Thomas and C. D. Shirland, of Auburn, Placer county. Their herd numbers over fifteen hundred head of pure bloods and graded varieties. Captain Shirland has made himself intimately conversant with every phase and detail of the business, and has unerringly demonstrated that, under intelligent management, the short, coarse hair of a cheap, common goat, can, at small cost, with scarcely any risk of failure, and with nearly invariable results, be bred into the long, fine, valuable wool of the Angora goat, generally at the fourth, sometimes at the third, and never later than the fifth cross. Specimens of the wool have been exhibited from a goat of the fourth cross in which the staple was eight inches long and as fine and soft as floss silk. Mr. Wm. N. Lundrum of Santa Cruz county, and Thomas Butterfield & Son of Montorey, are also large breeders and importers of the Angora goat.

As we have already stated in previous numbers of the Press, the Angora variety of goat is as easily and cheaply raised as any other—while the profits of the fleece are so much greater that every inducement is offered for ranchmen owning grazing lands to enter into the business of crossing the breeds and rearing them.

Wool Compared with other Fibres.

The fibre of wool, rendered more perfect than any other by the more complete chemical elaborations and assimilations of the animal economy, has the most highly developed organic structure. While the specific gravity of cotton is 1.47, of linen 1.50, and of silk 1.30, the specific gravity of wool is but 1.26. It is, therefore, of all fibrous substances the best non-conductor, and its tissues the lightest and warmest and most healthful.

The perfection of its fibre is shown by its indestructibility and durability. Cotton and flax may be ultimately reduced to a mere woody fibre. Wool is almost incapable of mechanical destruction. Unlike silk, the product of an inferior animal organization, which is straight and entirely structureless, the fibre of the wool is crisped or spirally curled, and is made up of cells of different kinds—the inferior forming the pith, and the exterior consisting of serrated rings imbricated over each other, having under the microscope the appearance of a series of thimbles with uneven edges inserted into each other; these serratures, as well as the spiral curls being more or less distinct, according to the fineness of the fibre. We have here the cause of the invaluable quality of felting, to which we owe our hats and broadcloths.

Flax and cotton composed of mere woody fibre are opaque and dull in aspect; woolly fibre when freed from the peculiar soapy oil or yolk which nourishes and protects its growth, has a natural polish which protects it from soiling, and in some varieties gives a positively lustrous beauty to its fabrics; the vegetable fibres receive with difficulty permanent dyes, and sometimes curiously exhibit their refractory nature in contrast with wool. The fibres accidentally detached from cotton or hempen strings, with which fleeces are sometimes bound, when incorporated with the woolen fabric, refuse the dye, and often ruin whole products of the loom. On the other hand, all animal fibres have already affinities with the chemical agents of the dyer. Wool especially, from the beautiful whiteness, itself the result of the original black sheep, is unrivalled in its facility for receiving, and power of permanently retaining color, as in the famous woolen Gobelin tapestries, where over a thousand distinctly defined tones and hues are given to fabrics destined to be indestructible as works of art.

Such are the qualities of fibre which have led every industrious nation to the culture of flocks as the first necessities of its people; which have caused, in every manufacturing nation, the demand to constantly exceed the supply.

THE HISTORY of the growth of wool in the United States is very curious. Sixty years ago not a pound of *fine* wool was raised in the United States, in Great Britain, or in any country except Spain. In the latter country the flocks were owned exclusively by the nobility or by the crown. In 1694, a small flock was sent to the electors of Saxony, as a present from the King of Spain, whence the entire product of Saxony wool, now of such immense value.

TREE CULTURE.

Timber Culture.

We copy the following from an exchange which has clipped it from some other paper, without acknowledgment, so that we are unable to give the proper credit. It will be found to contain some suggestions and hints what are well timed and worth reading: "Somebody no doubt, has said that he who plants a tree confers a blessing on posterity. If no one has said so before us, we say it now, because we want to talk to our neighbors about the cultivation of timber. We are just now approaching the season in which this work must be attended to, and we hope our land owners will bear in mind that there is pleasure, profit and beneficence connected with it.

When we reflect on the amount of wood annually consumed for fuel, fencing, building and other purposes in California, and remember the small proportion of timber lands in the State we must conclude that the day is not far distant when we shall be obliged to look elsewhere for our supplies unless something is done immediately to increase our home resources. With a little attention to this subject, and a small expenditure of labor, California might secure abundant timber for future wants. In our rich lands certain kinds of forest trees grow with astonishing rapidity. In the Sacramento Valley where thousands of acres of suitable lands are lying waste, we might have, ten years from now, beautiful forests fringing the river and spreading over the low lands, and which would be a source of untold wealth to the State. We have been told that it is not unusual for cottonwoods of ten years growth to yield two and three cords of wood. We have ourselves seen pine trees attain a height of sixty feet and a diameter of eighteen inches in ten years. Sometime ago we read of a cottonwood tree in Colusa, which after fifteen years growth was cut down in 1870 and yielded seven cords of wood.

We have no doubt that the cultivation of timber might be made more profitable than the usual farm productions. Of course the results could not be reached immediately, but we have seen estimates made by reliable agriculturalists which show that the profits of timber culture in the course of twenty years would exceed the value of the wheat crop in that period nearly fifty per cent.

On every farm there is unoccupied land that might be devoted to forest trees. Along the fences, bordering lanes and by the highways might be planted a variety of rapidly growing trees. Among them might be also planted various nut-trees, walnut and pecan. In a few years the monotony of our valleys, and the bald hill-sides would wear a look of beauty, and our highways bordered with stately trees would give a charm unsurpassed by any structure of art. And all the labor necessary to bring about this enchanting change might be performed in spare hours. Will not our people try it? Set out 100 trees this fall if you can do no more and they will grow up to comfort and bless you in the next ten years.

How the Chinese Produce Dwarf Trees.

We have all known from childhood how the Chinese cram their women's feet, and so manage to make them "keepers at home;" but how they contrive to grow miniature pines and oaks in flower pots for half a century has always been a secret. It is the product chiefly of long continued, skillful root pruning. They begin at the beginning. Taking a young plant (say a seedling or a cutting of a cedar) when only two or three inches high, they cut off its tap root as soon as it has other rootlets enough to live upon, and replant it in a shallow pot or pan. The end of the tap root is generally made to rest upon the bottom of the pan, or a flat stone within it. Alluvial clay is then put into the pot, much of it in the size of beans, and just enough in kind and quantity to furnish a scanty nourishment in the plant.

Water enough is given to keep it in growth, but not enough is given to excite a vigorous habit. So, likewise, in the application of light and heat. As the Chinese pride themselves also on the shape of their miniature trees, they use strings, wires and pegs, and various other mechanical contrivances to promote symmetry of habit, or to fashion their pets into odd fancy figures. Then by use of very shallow pots, which they use, the growth of the

tap roots is out of the question; by the use of poor soil, and a very little of it, and little water, strong growth is prevented. Then, too, the top and roots being within easy reach of the gardener, are shortened by his pruning knife, or seared with his hot iron. So the little tree, finding itself headed on every side, gives up the idea of strong growth, asking only for life, and just growth enough to live and look well. Accordingly each new set of leaves becomes more and more stunted, the buds and rootlets are diminished in proportion, and at length a balance is established between every part of the tree, making it a dwarf in all respects. In some kinds of trees this end is reached in three or four years; in others ten or fifteen years are necessary. Such is the fancy horticulture of the Celestials.

Trees at San Jose.

A late *Alta* correspondent writing from San José thus speaks of tree culture: "The general inclination on the part of the citizens of this section to plant and grow shade and ornamental trees, is a matter of self-congratulation to every intelligent person in the Valley, and it is not impossible that the success which is being achieved in every portion of the Valley in the cultivation of the shade and ornamental varieties of trees, may yet lead to an inclination to attempt the growing of forest and valuable timber trees, an enterprise which has sensibly been urged upon the people of this State by most of the leading papers. It has been fully demonstrated by experiments in this section, that forest trees can be grown rapidly enough to produce valuable timber and fuel within a few years from the time of planting, and it will be singular if men of sense, in the face of these proofs, can long disregard the importance of forest culture in this section, where nature's supply of fuel and timber trees is being perceptibly exhausted year by year. There are now standing in San José and vicinity, trees of several kinds, which have grown within the last ten years to a size perfectly surprising to the casual observer, proving to a certainty that each generation can, if they commence in time, produce all they may use in the way of firewood and building material. The eucalyptus, the blue gum, the elm and the locust, together with many other of the hardest trees, grow in this valley with surprising rapidity."

There is no reason for planting trees in San José that may not be urged with equal force for nearly every other valley locality in the State. We have repeatedly spoken of the importance of this matter, and last week called special attention to the provisions of the Shade Tree Law, which has been devised with special reference to encouraging a greater interest in tree culture throughout the State.

A Mistake.

It is a common mistake to plant pines and spruce-firs near the margin of one's walks and carriage roads. Few persons know or stop to inquire how large these trees will spread as they grow to maturity. They look pretty and docile as they stand in the nursery-rows, and so the little beauties are set within arm's length of the walk where they can easily be seen and petted. But in a few years the young giants begin to show their strength and large proportions. They throw out their arms in lusty vigor, stretching from fifteen to twenty feet on either side, over walks and grass plots, and adjoining shrubbery, darkening the windows and doorways, very much to the surprise and confusion of the planter. The result of the whole is that either the tree must be cut down, or their lower branches be hewn off, which latter operation is a virtual destruction of the tree. Any method of planting which does not forecast the future height and breadth of trees, whether planted single or in groups is mistaken.

TREES are out of place when they overshadow the roof of a house or darken its windows.

GREEN CORN CAKES.—Mix a pint of grated sweet corn with three tablespoonsful of milk, a teaspoonful of flour, a large teaspoonful of melted butter, a teaspoonful of salt, a little pepper and one egg. Drop this mixture by the large spoonful into your frying pan and fry them till brown; use butter for frying. These are nice served up with meat for dinner.

USEFUL INFORMATION.

Relief from Mosquitoes.

We some time since copied a paragraph which has gone the rounds of the press generally, to the effect that occasionally burning a little camphor in a room is a sure relief from mosquitoes. The *Hearth and Home* also published the same with a request that if any of their correspondents should make the experiment and find it successful they would communicate the fact. That request brought the following reply:—"I have been a sufferer—I am no longer one—at least so far as mosquitoes are interested. I followed your recipe word for word, and my chamber is no longer the reception room for these tormentors. I let my window remain open with perfect safety now. Twice during the seven days, since July 2d, I have burned camphor as directed, and although I left the windows and doors open, and could hear the distant drowsy hum of my enemy just without my fortress, it was thus far and no further with them. Since then I have experimented with them. Prisoning some twenty or more under a glass case, I puffed a small cloud upon them. In three minutes after a frantic struggle to escape what must have been to them a deadly upas, they perished miserably."

Concentrated Vegetables.

The general attention that has of late years been paid to the preservation and concentration of articles of food, continues to issue in new and occasionally valuable processes—though many of those put forth turn out on trial to be either wholly useless or quite impracticable save in the hands of such as have been specially trained to their management, in which category the following process for the concentration of vegetables is destined to fall, has yet to be determined. The aim is to put the solid portions of vegetables in such a shape that they may be readily preserved, and easily prepared for use when wanted, at the same time reducing the bulk and preserving their flavor. The way this is attempted in the case of potatoes will serve for illustration: After being thoroughly washed, the potatoes are boiled until done and their skins removed. The potato is then divided into fine vermicular particles by mechanical means, and while in this state the water is driven off by exposed heat. The material is left in a condition much resembling rice, and in this shape it is ground to flour if desired. The extract of potato prepared in this way can be used for making soups and other dishes; and by adding boiling water, a dish in every way resembling mashed potatoes, cooked directly from potatoes in the ordinary manner, is obtained, but, it is said, of superior flavor and quality.

To Tan Small Skins.

Place the hide on a smooth, round sided-slab, made for the purpose, with two legs in one end, and the other end resting on the ground, drive a nail in the upper end to hold the skin from slipping while fleshing. Scrape off all the flesh with a blunt knife, being careful not to tear the hide. Then take the brains of the squirrel and work them thoroughly into the skin; this renders the skin pliable. Then to preserve the skin from the ravages of insects, scatter on some powdered alum and a little saltpetre. Let dry; then stretch and work it until pliable as may be desired. The above is acknowledged to be a very good recipe for tanning all kinds of fur, although there may be better ones in use.—*Cor. Rural New Yorker.*

THE FIRST UMBRELLA.—History records that the French were the first to carry umbrellas. Their first appearance in England was greeted with ridicule, and the custom of carrying your shelter with you derided as a piece of French effeminacy. The few who first summoned courage to carry umbrellas through the streets of an English city were followed by jeering boys.

HOW TO KEEP COOL.—During oppressively warm weather, it may prove a relief to remember that water applied to the wrists and temples and allowed to evaporate will cool the blood surprisingly. A sponge bath of tepid water before retiring will frequently insure a comfortable sleep in a hot night.

Preserving Grapes.

As the season for grapes is rapidly approaching, the following may be of importance to the cultivators and consumers of this favorite fruit:

While grapes may be grown in such profusion and with so little labor, it is a remarkable fact that a supply for every household in the country is not produced, not only in the regular season of them, but to last till spring. There is no trouble in keeping grapes through the winter as fresh as when first gathered. In seasons when other fruit is scarce, no greater luxury can be enjoyed than a dish of fresh grapes in winter. In gathering grapes to be kept fresh they should be allowed to hang on the vines until they are fully ripe, and then gathered with care, to avoid bruising. The fairest bunches should be chosen to put away, and with a pair of small scissors all defective and bruised berries should be cut off. They should be then put in boxes well ventilated, and remain for a few days, when they should be packed in boxes holding six or eight pounds each, first sprinkling the bottom with a layer of mahogany sawdust, or, what is better, turning chips, then a layer of grapes, and then sawdust alternating to the top. It is not important that the box be tight; it is better that it should not be. These should be put in the coolest place in the house, where the air is dry.

Polish for Leather.

A good polish for restoring leather tops dashes, etc., is made of two parts of good glue soaked in tepid water until it is thoroughly softened, then add three parts of crown soap dissolved in warm water, then add five gills of water and two gills of brandy or common spirits, rubbing it until it becomes smooth, stir this into the mass and afterward stir in two parts of wheat flour mixed smooth in cold water. The mixture is then put over a moderate fire and allowed to steam off a little but not to boil, stirring it well while over the fire.

It can be used immediately or made up into small cakes which can be dissolved at any time in a little water or beer. It can be put on with a brush, a thin coat only being required, and afterward rubbing it with a linen or silk cloth. This not only restores the color but also adds to the durability of the leather.—*Carriage Journal.*

A PERPETUAL CANDLE.—The perpetual candle is the name of a useful contrivance which has lately been introduced in this country from Russia. It consists of a small tube, within which is placed a close fitting wick, soaked with kerosene. This tube is screwed into a candlestick, and fits inside another tube made of white china, and resembling closely a candle in external appearance, the whole having the look of an ordinary candle and candlestick. By heating the top of the brass tube the kerosene-soaked wick generates a gas and gives a fine blaze through a number of small apertures in the end of the tube. By this simple and ingenious arrangement, it is said, a good light is furnished at a cost of one cent for five hours. Besides the point of economy, it is thought that the use of kerosene in this manner will be entirely free from danger of explosion.

PASSAGE OF SOUND THROUGH THE ATMOSPHERE.—The whistle of a locomotive is heard 3,300 yards through the air; the noise of a railroad train, 2,800 yards; the report of a musket and the bark of a dog, 1,800 yards; an orchestra or the roll of a drum, 1,600 yards; the human voice reaches to the distance of 1,000 yards; the croaking of frogs, 900 yards; the chirping of crickets, 800 yards. Distinct speaking is heard in the air from below to a distance of 600 yards; from above it is only understood to a range of 100 yards downward. It has been ascertained that an echo is well reflected from the water only when the voice comes from an elevation.

A USEFUL PRECAUTION.—There is a very simple process by which muslins used for ladies and children's dresses can be prevented from catching fire. Dissolve a small piece of alum in the water in which muslins are rinsed. When dry, if a light be put to them, they will smoulder away slowly, but not break out into a blaze. And this, so far from being serious to muslin, improves its appearance greatly.

EVERYTHING useful or necessary is the cheapest. Walking is the most wholesome exercise; water, the best drink; and plain food the most nourishing and healthy diet. Even in knowledge the most useful is the easiest acquired.

GOOD HEALTH.

More About Cundurango.—The Other Side.

In our issue two weeks ago we gave the history of the introduction and alleged virtues of the Peruvian plant, known as *cundurango*, and it is perhaps but proper that we should mention in this connection, what we did not notice, until that article went to press, that many of our medical men do not agree with Dr. Bliss and others in their appreciation of this new cancer specific. Dr. Nichols of the *Boston Journal of Chemistry*, a high medical authority, remarks that "A great noise has been made regarding it [*cundurango*] by correspondents of newspapers, which we suppose is a new way of advertising a nostrum which it is in contemplation" to put on the track "as a sovereign cure-all for cancer and other malignant affection." The Doctor thinks Mr. Colfax is giving the matter undue notoriety by alleging that it has "cured his mother-in-law of cancer." This, adds the Doctor, sounds very absurd to intelligent physicians, who know that cancer is not a local trouble, but a disease affecting the system generally, and of a most malignant nature. He advises his readers "not to invest very largely in the *cundurango*, or any other nostrum claiming to have extraordinary virtues."

Dr. Antisell, of Washington, is also lacking in faith in the alleged specific. He has subjected the plant to chemical examination, and fails to find in it any unusual characteristics. He is inclined to class it among the "aromatic bitters," and states that what little medicinal virtues it has resides in the bark.

The "profession," with its usual caution, will of course discourage the very general introduction of this specific, until its characteristics and effects upon the human system have become more fully known, under the administration of careful and intelligent physicians. This perhaps is wise and proper; but judging from well authenticated reports, there seems to have been at least an apparent demonstration of its virtues, of sufficient significance to warrant a more careful and thorough experimentation with it.

A Rival Cancer Cure.

The *Boston Herald* indorses the reputation of a physician of forty years' standing who says he has used *cundurango* in the country of its growth to cure cancer, and found it an efficient alternative, but not always certain. On the other hand, he used red clover tops in ten different cases without a single failure. This is valuable information, if its results shall prove to be as uniformly successful as this physician claims to have found them. At all events, clover is so abundant and inexpensive that it can be brought within everybody's reach. The manner of using is to make an infusion of the tops, dry or green, and drink freely, making also external applications to the affected parts. The paper above named comes to the defense of its "Old physician of high standing" and his new cancer remedy as follows: "The use of red clover for several cutaneous disorders has been familiar for years, among the old women who doctor with herbs in an amateur way in the back country, but it should not be scorned on that account. Many a crone culls simples as effective as the most elaborate prescriptions of the pharmacopoeia."

EATING.—Every animal eats as much as it can procure, and as much as it can hold. A cow eats but to sleep, and sleeps but to eat; not content with eating all day long, "twice it slays the slain," and eats its dinner over again. A whale swallows ten millions of living shrimps at a draught; a nursing canary-bird eats its own bulk in a day; and a caterpillar eats five hundred times its own weight before it lies down to rise a butterfly. The mite and the maggot eat the very world in which they live; they nestle and build in their own roast beef; and the hyena, for want of better, eats himself. Yet the maggot has not the gout, and the whale is not subject to sciatica. Nor does Captain Lyon inform us that an Esquimaux is troubled with the toothache, dyspepsia, or hysterics, though he eats ten pounds of seal, and drinks a gallon of oil at a meal, and though his meal lasts as long as his meat. But if eating is to produce diseases, what disease would be absent from the carcasses of Captain Cochran's Siberian friends, who eat forty pounds of meat with twenty of rice porridge at a sitting?

Inherited Inebriation.

Dr. Brown, a well known English writer on insanity, says:

The drunkard not only enfeebles and weakens his own nervous system, but entails mental disease upon his family.

The author of an elaborate article in the eighth volume of the *British Psychological Journal* in describing a class of persons fond of intoxicating drinks, says:

They are offsprings of persons who have indulged in stimulants, or who have weakened the cerebral organizations by vicious habits.

Mr. Darwin says:

It is remarkable that all the diseases arising from drinking spirituous or fermented liquors are liable to become hereditary, even to the third generation, increasing, if the cause be continued, till the family become extinct.

Dr. Elam, a London physician, in a recent work upon *Physical Degeneracy*, writes of the effects of alcohol, as follows:

All this, fearful as it is, would be of trifling importance did the punishment descend only on the individual concerned and terminated there. Unfortunately this is not so, for there is no phase of humanity in which hereditary influence is so marked and characteristic as in this. The children unquestionably do suffer from the sins of the parent, even unto untold generations. And thus the evil spreads from the individual to the family, from family to community, and to the population at large.

Treatment of Felons

In the early stages, during the first three days, the finger should be put into as hot water as can be borne, and the temperature gradually increased for thirty minutes, or until the pain subsides, then apply a cool compress; cold compresses should be kept upon the arm, to cool the circulation and prevent the morbid deposits from being carried to the finger. The immersion of the finger in hot water may be repeated when the intensity of the pain requires it. If this treatment is persevered in faithfully it will scatter it.

Should this fail and the swelling increase, hot poultices made of slippery elm, corn meal, bread and milk, or hops, may be applied, frequently changing them, which will not only relieve the pain, but bring the felon to a head. When it is opened tepid poultices should be applied for a few days; after the inflammation has subsided it should be dressed with cold compresses, or a creamed or oiled cloth, to keep the parts moist and afford protection; if the poulticing is continued too long, it will draw effete matter to the part, and prevent its healing. For general treatment, give an occasional vapor, hot sitz, or pack, as may be indicated.—*Dr. McCall.*

A USEFUL RECEIPT.—Rub four parts by weight, of yolk of eggs, in a mortar with five parts of glycerine. This compound has the consistency of honey, is unctuous, like fatty substances, but is easily removed by water. Applied to the skin, it forms a varnish, which effectually prevents the action of air. It allays the itching in cutaneous actions. Is unalterable, and can be exposed to the air for an indefinite period.

TRANSPLANTATION OF BONE.—M. Philipeaux has made some experiments upon guinea-pigs tending to prove that bone taken from an animal may be transplanted upon another animal of the same species. M. Ollier had made similar experiments before, but they were made upon the same animal and grafted in the same opening wherefrom they had been taken. M. Vulpian says that an important condition of success depends upon the age of the animals.—*Gaz. Medicale.*

CIDER FOR A COLD.—Common sweet cider boiled down to one half, makes a most excellent syrup for coughs and colds for children—is pleasant to the taste, and will keep for over a year in a cool cellar. In recovering from an illness, the system has a craving for some pleasant acid drink. This is found in cider which is placed on the fire as soon as made, and allowed to boil, then cooled, put in casks, and kept in a cool cellar.

A HINT TO CONSUMPTIVES.—A physician of no little experience says he has known several consumptive patients cured by observing the following rules: Live temporarily, avoid spirituous liquors, wear flannel next to the skin, take every morning half a pint of new milk, mixed with a wine-glassful of expressed juice of green hoarhound.



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SAN FRANCISCO:
Saturday, August 26, 1871.

Our Weekly Crop.

Beginning at the foundation of all agricul-
tural pursuits, we have introduced to-day, for
the examination of our visitors, a patent Gang
Plow—a California invention, which will also
be shown at the State Fair. By the side of it
we may also see a large collection of California
Fruits which are to be exhibited at the Eastern
State Fairs.

Our Mechanical and Scientific Library is
enriched this week by some Experimental In-
vestigations of a New Force. Our Correspond-
ence is also quite varied and interesting.

We have introduced at the Home and Farm a
new Artificial Leg against any possible contin-
gency that may arise from the unskillful use of
the Skate Roller, or the journey through the
State in collecting our Agricultural Notes. The
Wool Bearing Goat Business and Timber Cul-
ture occupy a large share of our attention;
while we fill up the spare hours in collecting
sundry interesting items of Useful Information,
and in instructive talks with the Doctor.

A visit to the exhibition of the Bay District
Horticultural Society, affords a pleasant relief
from the heavier duties of the farm; while near
by we are interested in witnessing the magni-
ficent show of Stock made by the Bay District
Agricultural Association. We next take a trip
to Mount Shasta, where we have ample opportu-
nity to study Nature in her loftiest and grandest
displays. Returning from thence we stop to
take Notes at the Mechanics' Institute, before
paying our usual visit to the Home Circle,
where "My Elopement," by a remarkable ride
on a locomotive is told, and where we get some
valuable hints on the Art of Dining and other
matters pertaining to table and kitchen duties.

We close the week by another ride on a Road
Steamer, an enquiry into Castor Bean Cul-
ture, a look into the Markets, etc.

A CHEAP ARTESIAN WELL.—The Kern
County Courier of a late date says that Mr.
Elias Dearborn, in the extreme southern
portion of that county, while recently
searching for pasturage for his stock, found
a locality where there was plenty of feed
but no water. Thinking that there must
be water near the surface to support the
grass, he commenced digging and after go-
ing down about nine feet through moist
clay struck a quick sand, which was too
wet and loose to dig into. He then took a
rake handle to probe the sand, and found
but little difficulty in thrusting it down
about eight feet. On withdrawing it, the
water followed with such force that he was
compelled to hasten out of the shaft which
was soon filled so as to overflow, which it still
continues to do—suitable curbing having
been put down to the sand.

It is thought that this discovery will
lead to the opening up of an immense
tract of grazing land in that vicinity.

LONDON is said to contain 200 female stu-
dents of medicine.

First Annual Exhibition of the Bay District Horticultural Society.

This society very judiciously selected
the occasion of the Fair of the Mechanics'
Institute for holding their first annual ex-
hibition. It opened at the same time and
is to continue during the same period, in
an apartment of the Industrial Pavilion
built for the purpose on the south side of
the main building. This apartment runs
the whole length of the main building, 350
feet, and is 45 feet wide, containing about
17,500 square feet. The entrance is through
a wide door and leading out of the princi-
pal amphitheater of the Mechanics' Exhi-
bition.

Floriculture.

We anticipated a rare treat at the Flori-
cultural Exhibition; but as we stood upon
the steps leading down into the Hortien-
tural Department, and cast our eyes over
the scene before us, we were most agreea-
bly surprised. Instead of an exhibition
of fruits and flowers stiffly arranged on
stands and tables, we beheld a beautiful
landscape garden, with delightful green
grass plats tastefully dotted over with a
most happy selection of shrubs and trees,
interspersed with large and small flower
beds, all beautifully formed and artist-
ically arranged. Meandering around
and through this garden are wide prome-
nades and gravel walks, and the whole re-
lieved by appropriate statuary, embowered
summer houses, sparkling water fountains,
entwined hanging baskets and other fea-
tures of ornament and attraction.

When we reflected that but three or four
weeks previous, the place where we now be-
held this work of taste and art so skillfully
interwoven with nature's gems of beauty,
was but a barren sand bed, we were in-
stinctively led to ask ourselves, "If with
so short a time for preparation our Horti-
cultural Society have made their first exhi-
bition so fine a success, what may we not
expect from them in the future?"

To furnish our readers a more intimate
knowledge of the exhibition we will give a
more detailed description of the parts of
this symmetrical whole.

The grass composing the beautiful green
plats is the Italian rye grass, grown from
seed sown on the spot and especially for
the occasion. In this plat and a little to the
left of and opposite the entrance is bedded
a group of Phlox *Drummondii*, produced
and exhibited by E. S. Reimer. The deli-
cacy and brilliancy of the colors indicate
a selection of most choice varieties. An-
other bed, close by, is filled with the ever
welcome pansies of variegated colors from
the nurseries of Meyer & Co., looking al-
most as fresh and cheerful as when they
greet us in an early spring morn. Then
comes a bed of coleus, in great variety,
bordered with Sedum *Variatum*, giving
a very pleasing effect.

Among the trees that ornament the plat
we noticed the *Arancaria Ecelsa*, *Arancaria*
Bidwellii, *Arancaria Brazilensis*, *Cedrus*
Deodora, *Abies Manzissie* from Meyer &
Co. A fine specimen of the Oleander ten
feet high, covered with beautiful double
flowers from S. P. Simonds. A beautiful
fruit-bearing pomegranate with fruit and
flowers, and an old-fashioned grape myrtle
in full bloom, from Sacramento. We were
attracted by two very neat groups of *Ara-*
caria Ecelsa and *Brazilensis* from Mr.
Burr, and a fine Lemon tree, full of fruit,
from S. P. Simonds.

A little to the right of the main entrance
is a large irregular bed containing an ex-
tensive collection of *Coniferas*, all well
grown and exhibited by E. S. Reimer.
Still to the right we see a group of flower-
ing plants in pots, the exhibit of Meyer &
Co., embracing not less than thirty varie-
ties, including various colored single and
double geraniums, myrtles, fuschias, helio-
tropes, etc.

Next is a collection of tropical plants,
bordered by a fine collection of ferns, con-
tributed by R. B. Woodward, among which
we notice Bananas, Pine Apples in fruit,

Cordyenes, etc. Along the south side of
the building is a table about 100 feet long,
filled by E. S. Reimer with a large and fine
collection of roses, climbing plants in
profusion, a large variety of fuschias and
other flowering and budding plants, in-
cluding a fine collection of double and a
few tri-colored geraniums, and hardy plants
of beautifully variegated foliage. At the
west end of this table we notice a couple of
large and finely grown specimens of the
tobacco plant, exhibited by James Lick of
Santa Clara. The west end of the garden
is beautified and rendered attractive by a
collection of hanging baskets of wire and
rustic work filled with delicate creeping
and climbing flowers, artistically and taste-
fully arranged, the exhibit of Meyer & Co.,
E. Allen & Co. and James Smith.

Immediately beneath this suspended
loveliness are some beautiful specimens of
California ferns, by Mr. Chausse, which
add much to the pleasing effects of the
locality. At this end of the building and
inside the main walk is located one of the
elegant wire summer houses, the pillars of
which are decorated by climbing ivy, and
under the opening arches we notice some
fine specimens of Hungarian grape vines,
with large clusters of fruit, grown in pots,
by Joseph Putzer. The summer house is
from the factory of Mr. Greenhagen, and
in the center of this house is exhibited a
fine earthen fountain from the Antioch
pottery.

Returning east, and in the center of the
ground, is a table upon which W. Robert-
son exhibits a fine collection of large sized
flowering plants in great variety—perhaps
the most attractive feature of which is a
fine specimen of *Stephanolus*, occupying
the center and in full bloom, from which
floats through the air a most grateful fra-
grance. On the opposite side of the walk
R. B. Woodward has placed a beautiful
and numerous collection of rare and well
selected plants, among which we notice
some *Colatiums* of all possible colors and
marks. As we pass the main entrance, to
the east, is a large center bed, the corre-
spondence of the one devoted to *Coniferas*,
and filled with a magnificent collection of
evergreen and flowering plants, natives of
Australia, exhibited by E. S. Reimer. This
collection numbers from 75 to 100 varieties,
and embraces many rare and choice plants
and trees. Then again Mr. Woodward has
contributed another beautiful collection of
flowering and climbing plants of a great
number of varieties and choice specimens.

On our left, as we continue up the main
walk, is a table covered by F. A. Miller, of
the *California Horticulturist*, with a very
large collection of flowering and ornamen-
tal foliage plants in pots. Opposite this
table is the display of cut-flowers embrac-
ing a very general assortment, attractively
arranged by Meyer & Co. On this table
we notice a magnificent specimen of the
Pampas grass, by Fred. Bibend. As we
turn around the eastern end of the build-
ing we see a valuable collection of plants,
by F. Haeglick. On the south side of this
end of the conservatory is another grand
feature of the exhibition, contributed by
Meyer & Co., who have done so much for
the Fair. Here we behold 15 varieties of
zonal geraniums, 10 varieties of tri-color
geraniums, and 12 of delicate ferns; and
their extensive collection of plants for
green-house, conservatory and window en-
lure; and the most magnificent collection
of fuschias we have ever seen, making alto-
gether a most complete and valuable col-
lection.

Next the main building, on the east of
the main entrance, we passed a table some
fifty feet long, on which E. A. Upton, an
amateur florist of San Francisco, has an
exhibition of dahlias, of some hundreds of
varieties, of almost every conceivable var-
iety of color, many of them being varie-
gated, so as to combine almost all the tints
and shades to which our nomenclature has
given a name. This exhibition is very re-
markable and attracts great attention.
What we have said of this exhibition of
dahlias, we may also say of an exhibition
of Hollyhocks, by the same party. Some
of the latter present almost the appearance
of choice specimens of the rose, both in
form and color.

The horticultural exhibition up to the
end of the second week, is quite meag-
er, but more contributions are ex-
pected next week, when we propose to give
this part of the Exhibition our attention.
The entries in this department have been
held open, it being thought better to show
fruit in the latter than in the forepart of
the Exhibition.

NOW AND THEN.—At the Institute Fair
of 1865 there were only 984 entries, while
the entries at the present exhibition num-
bers 1,781—nearly double the former.

Bay District Agricultural Society's Fair.

Live Stock Exhibition.

We could not get out to the stock ground
until yesterday, after the grand parade of
stock had been finished, and we are as-
sured, that in missing this parade, we
missed a very rare treat. When we arrived,
the grand Tournament, so called, was in
progress, and as we couldn't see much of
a point in this equestrian exercise for
grown up men to make, we concluded to
take a stroll

Among the Cattle.

Entering the gate of the cattle yard, who
should we fall upon first but Col. Younger,
of Santa Clara County, the very man we
wanted to see; for we knew that the Col-
onel was a great cattle man, who not only
knows how to raise good cattle, but can
appreciate good ones raised by others.
So we harnessed the Colonel in at once,
engaged him to talk Stock for our especial
benefit, and as he talked, we examined the
animal talked of.

The Colonel himself makes a show of
sixteen head of very valuable short-horn
Durhams, commencing with his famous
bull, "Glencoe," a red roan, four years
old. This bull took the first premium for
a three-year-old at the State Fair last year,
and also the sweep-stake. He is a magnifi-
cent animal, and bears down 2,160 pounds.

In the next stall, stood the "Lady of
the Lake," a three-year-old, deep red cow,
of whom a King might be proud. Then
came a beautiful red roan cow, three years
old, "Sprightly," who has carried off a
number of premiums in her day, and who,
though she bears down 1,475 lbs., is still
"Sprightly."

By her side stood a worthy daughter,
"Jennie," by "Glencoe," born the 5th of
last November.—We would like to take
her and "bring her up."—Then came
"White Rose," five years old, a fine, large
animal, appropriately named; and next, a
little beauty, "Helen," another of
"Glencoe's" daughters, and worthy of her
sire.

"Lady Belle," a yearling heifer, a half
sister of "Helen," a deep red roan, who
carried off the first premium at the State
Fair, in 1870. "Romie," another of "Glen-
coe's" daughters, by "Kate Hughes," oc-
cupy the same bed.

We were then shown "Storm," a son of
"Jeff Davis," dam "Lady Augusta," a
bull calf less than a year old, for whom
the Colonel refuses \$700; and by his side,
"Comet," another son of his illustrious
sire, "Jeff," out of "Long Legs," a deep
red, a year old last February, who pulls
down 1,300 pounds; and, hard by, another
deep red, bull calf, and promising son of
"Glencoe," out of "May Flower." Then
came three young daughters of old "Jeff,"
"Peggy," second out of old "Peggy,"
"White Swan," out of Molly, and "Lady
O'Keefe," out of "Bunk," all worthy of
their sire. We must say, the Colonel's
band look as if they were "going after"
the premiums, and we think they will
"take" some.

We were then introduced to Chas. Clark
Esq., who showed us a splendid deep red
roan bull, two years old, "Lincoln," sired
by Col. Younger's "Jeff Davis," and a
couple of fine young graded heifers re-
spectively daughters of Younger's "Davis"
and "Glencoe." Wm. Quin then showed
us a brisk looking red roan bull, five years
old, "Tyrone," by Ashland; dam "Kate
Hayes," bred by Col. Younger, also "Lady
Sherman," a 3 year old daughter of "Jeff
Davis," dam "Rose Bud," a beautiful
creature. Also three graded heifers, fine
animals respectively called "Mary," "Lau-
ra" and "Butter Dale."

W. H. S. Barnes exhibits a fine little do-
mestic looking dun Alderney cow, "Annie"
and calf "Bessie," they remind us of rich
milk and golden butter.

C. H. Cushing of San Leandro, shows fine yearling Devon bull.

W. L. Overhiser, of San Joaquin, exhibits a very fine brand of Durham cattle, commencing with a grand old bull, 4 years old, name "Grand Turk of Oak Home," No. 8258 Stock Register—father of a numerous family of worthy children; also one of his babies, "3d., Grand Turk of Oak Home" a deep red beauty and a still younger, "4th, Grand Turk" a "chip of the old Block," "Duchess De Argentine 4th," a red and white heifer calf,—"Old Turks" Daughter and his two Sisters "Rosetti. 5th," and "Flora Temple, 6th," all superior animals and good to have. "Tulip 6th," a red and white four year old cow, and Rosetti 2d., a daughter of John Bull" and her calf "Rosetti 6th,"—also, "curiosity" 2d., "a beautiful cow and another of "John Bulls" descendants and her calf "Curiosity 4th," by old "Grand Turk of Oak Home."

Over hiser's stock are all good, and will dispute some of the honors with those of Col. Younger.

W. R. Rose, of Sonoma, shows his fine herd of Devons, all a beautiful red with wide horns, indicative of the pure blood which is in their veins. There are eight animals in the lot of which "Bloomfield," a magnificent old fellow, is a fair Specimen.

Seneca Daniels, also of Sonoma, shows eleven animals of the same stock, among which is "Fashion," a cow 23 years old looking as though she was hardly in her teens. By her side is a beautiful little calf, "Comet." Messrs. Rose and Daniels, "go their pile" on the Devons and their stock "backs" them well.

B. C. Whipple shows a fine herd of Durhams, consisting of three splendid bulls named respectively "John," "William" and "James Dean," and aged three, two and one years; all good animals, and "bound to win" some of the "medals" in the bestowal of the "committee;"—also "Effie Dean," "Effie Dean 2d.," and "Effie Dean 5th,"—the first and last named with calves by their side; and two eight month calves "Jessie" and "Bessie," all of the noble "Dean" family, and "Swift" for the honors that may be "lying around loose" to be won from the society.

J. B. Redmond, of Marin, always on hand where "good stock" is to be seen "puts in an appearance" with six head of Durhams of which "Lolla Rooth," a very large bull stands at the head. A white cow, "Nellie" and roan heifer "Bertha 28;" and then comes the "Trueheart family,"—three young and beautiful heifers, claimed to be of a most excellent "milk-ing" stock, and shown with especial reference to this desirable quality.

C. B. Polhemus believes in the Alderries for the dairy and family use, and exhibits a fine brindled and white bull, "Prince Albert," and a dun cow, "Queen Victoria," both three years old; also "Maggie," a four year old Durham cow.

For want of space we shall be compelled to defer till next week, a notice of the cattle exhibited by S. B. Emmerson, H. W. Seal, Peter Saxe and others, also the exhibition of that "noble animal," the horse, as well as the flocks of sheep, pens of pigs and coops of fowls, of which there are many worthy of note.

A SUCCESS.—C. W. Reed, orchardist of Yolo county, made a good success with the three car loads of Bartlett pears heretofore mentioned by us as having been shipped East. About one-half were disposed of at Chicago, and the other half went through to New York. All arrived in good order, and those at New York—500 boxes—were disposed of, in one day, at \$6.50 per box. Mr. Reed expects to send East at least twenty ear loads of fruit this season.

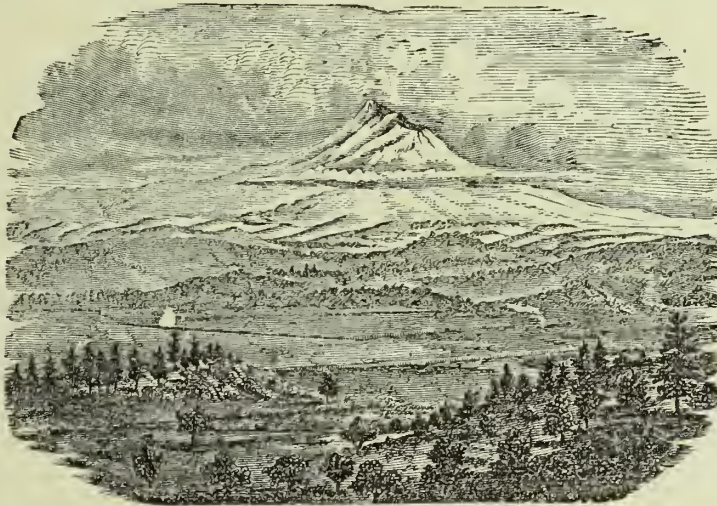
RECEIPTS OF FRUIT IN THIS CITY.—The receipts of fruit in San Francisco for the week ending Saturday last was enormous. The *Alta* makes the following exhibit as furnished by Mr. Lusk:—Pears, 13,000 boxes Bartlett; 5,000, common; apples, 9,000 boxes; peaches, 6,000 baskets, 4,000 boxes; plums, 3,000 boxes; grapes, 2,000 boxes; figs, 300 boxes; nectarines, 200 boxes; crab apples, 300 boxes; apricots, 300 boxes; German prunes, 250 boxes; blackberries, 1,000 chests.

Mount Shasta.*

The hight of this prominent feature of the State of California, as computed by Prof. Whitney in his Geological Survey, is 14,440 feet above mean tide. It is an isolated and lofty volcanic mountain, located in latitude 41° 30', and is the head and main source of the Sacramento river as well as small streams. It is capped with snow at all seasons of the year, and as you ascend the valley of the Sacramento, looks like a huge mountain of solid snow and presents a magnificent sight even to one accustomed to mountain scenery.

If the beauties of the sight were better known, there would be a much greater amount of travel in that direction during the summer, for it is hardly possible to find in California, or in fact, anywhere else, a series of grander views than is presented by the gorge of the river, the rocky tree-covered sides of the valley and the stupendous mass of Mount Shasta in the background.

As to the mountain itself, it is so imposing in outline that the most striking views of it are those which present themselves at a distance of from 30 to 40 miles. The view from the summit is said to be mag-



VIEW OF MOUNT SHASTA, THIRTY MILES DISTANT.

nificent in the extreme, and those who have made the ascent have never regretted for a moment the toil and arduous labor expended in gaining their object. The best season of the year for the ascent is in the months of July and August. The plan generally adopted is for the party to pass the first night on the mountain near the line of perpetual snow and to start from that point early in the morning while the snow is still frozen and hard, for the mid-day sun softens it nearly to the summit, making climbing almost impossible.

The ascent has been made quite frequently and hardly a summer passes that one or more parties do not start from Yreka to make it.

The base of the mountain is covered with timber on all sides except the north, the finest forests being found on the southern and western slopes. The largest trees are pitch pine (*Pinus Ponderosa*), many of which are of unusual dimensions. The great forest belt lies at an elevation of from 4,000 to 7,000 feet above the sea, here and there interrupted by large patches of chapparal, which form the densest possible undergrowth, but the trees cease suddenly at an elevation of 8,000 feet.

At the ancient crater, which covers a space of several acres, are the hot sulphur springs. Steam and sulphurous gases are constantly escaping, and a considerable deposit of sulphur is visible. To have the most favorable view from the summit the ascent should be made at night, if possible, so as to be on the summit at sunrise when the air is clearest and the effect of light and shade are most perceptible. No one visiting California by way of seeing its curiosities should omit this excursion from the list.

*Our illustration is from the Scenes and Wonders of California, by J. M. Hutchings. A. Roman & Co., Publishers, San Francisco.

Notes at the S. F. Mechanics' Institute Fair.

[In these articles we have room only to notice briefly such articles as come specially under our observation. More replete descriptions of the most interesting and instructive exhibits will be given in the PRESS in our greater leisure hereafter. No classified catalogue being published we do not in this number give complete notices in any particular department.]

KNOWLE'S PATENT PUMPS are represented by A. L. Fish, S. F. agent. The display is a good one, and is located prominently at the entrance to the machinery department. The large pump works well and is highly spoken of by practical men. It was illustrated in our issue of July 22d.

HOOKE'S STEAM PUMP, a California invention, patented by the SCIENTIFIC PRESS agency, we believe possesses superior merits, likely to place it in the front ranks of the hydraulic inventions of the day. It is compact, simple and apparently of durable and cheap construction. Mr. Hooker manufactures his pumps in his own shop, in this city and, in a measure, with his own digits, and although his exhibit is the modest one of two small sized pumps, it

will be difficult to find many home inventions and manufacture more worthy of encouragement.

WILCOX'S WATER LIFTER, a California invention, Blakeslee & Williams Patent Steam Jet Pump, and Hanscom's Vacuum Pump—all direct steam-acting—and operating successfully, showing progress in this class of pumping machinery.

QUICKSILVER FURNACE.—Mr. John Roach and Ferdinand Fornshales, have a working size furnace for treating quicksilver ores. The apparatus is working economically, we are told, in Napa county. The fumes and vapors of this valuable and slippery metal are drawn from the furnace by the revolution of an auger-shaped screw working diagonally in a chamber partly filled with water. Its operation creates the blast for the furnace. Quite a number of patents have been granted for this improved furnace in the U. S. and foreign countries through our patent agency.

A MINUTE ENGINE, running, is exhibited by Mr. Blair, a painter, who has brains for something besides "brushing."

COTTON.—Messrs. Buckley, Strong & Co. exhibit near the Mineral Department, fine samples of cotton in the seed and ginned, raised on their ranch at Snellings, in Merced county, which show what can be done in that branch of agriculture. They also exhibit in the Floricultural Department a cotton plant, transplanted from their ranch and showing both balls and flowers—the former from one to one a half inches in diameter. The plant stands about three feet high, and the principle shoots from the base are from one and a half to three-quarters of an inch in diameter. This is a very interesting and suggestive exhibit.

Horticultural Prizes.

The prizes for the best exhibits in the Horticultural Department of the Fair during the first and second weeks, have been awarded as follows.

1. Best display and general collection of flowering plants in bloom, E. L. Reimer, \$20.
 2. Best display of plants indigenous to Australia E. L. Reimer, \$25.
 3. Best collection of coniferæ, both native and foreign, E. L. Reimer, \$20.
 4. Best collection of plants for greenhouse and conservatory, Meyer & Co., \$15.
 5. Best collection of budding plants, E. L. Reimer, \$10.
 6. Best collection of hardy plants and variegated foliage, E. L. Reimer, \$10.
 7. Best collection of tropical plants, R. B. Woodward, \$10.
 8. Best collection of climbing plants, Meyer & Co., \$10.
 9. Best collection of new and rare plants, R. B. Woodward, \$10.
 10. Best hanging baskets and rookeries, Meyer & Co., Diploma.
 11. Best collection of ferns, R. B. Woodward \$5.
 12. Best collection of roses in pots, E. L. Reimer, \$10.
 13. Display of cut flowers, Meyer & Co., \$10.
 14. Pair of best arranged wire hanging baskets Allen & Co., \$5.
 15. Pair of best arranged rustic hanging baskets, Meyer & Co., \$5.
 16. Best design for a suburban garden, M. Michaelson, \$10.
 17. Best collection of California seeds, E. L. Perkins, \$10.
 18. Best exhibit of California canes, Dr. C. A. Stives, \$5.
 19. Best collection of fuschias, not less than fifteen varieties, Meyer & Co., \$8.
 20. Best collection of six fuschias, F. A. Miller, \$3.
 21. Best collection of double geraniums, E. L. Reimer, \$5.
 22. Best collection of tri-color geraniums, E. L. Reimer, \$5.
 23. Best collection of pansies, Meyer & Co., \$3.
 24. Best collection of verbenas, Fred. Rieband, \$3.
 25. Best collection of cut dahlias, E. A. Upton, \$3.
 26. Best collection of ten dahlias, W. Robertson, \$3.
 27. Best collection of gladiolas, J. M. Thompson, \$3.
 28. Best spikes of hollyhocks, E. A. Upton \$3.
 29. Best 12 roses, E. L. Reimer, \$5.
 30. Best six roses, W. Robertson, diploma.
 31. Best pansies cut, E. L. Reimer, \$3.
 32. Best collection of annuals, F. A. Miller, \$5.
 33. Collection of greenhouse plants, special premium to W. Robertson, \$5.
 34. Water lilies, exhibited by S. T. Simonds special premium, \$5.
- Signed by H. N. Bolander, Fred. Rieband, H. G. Bloomer.

LOWER CALIFORNIA FARMING AND MANUFACTURING Co.—Another Lower California company has been organized under the above name which, however, disclaims all connection with the Magdalena Bay project; it being some 200 miles distant from the locality of the moss gatherers, and on the opposite side of the peninsula.

According to the certificate of incorporation, the capital stock is \$48,000, and the company claims 42,000 acres of valley land on the gulf coast of Lower California under titles confirmed by the highest Judicial Court of Mexico. The objects of the company are to restore the ancient aqueducts at the Magdalena Mission and introduce the water for manufacturing and irrigating purposes and to cultivate the land so as to raise sugar cane, cotton, coffee, tobacco, grapes, and the varied products grown in a semi-tropical climate. They propose also to furnish sufficient water power, not only for their own use, but for renting out the power to capitalists who may desire to establish ore reduction works, plaster of paris or cement factories, the material for which is on the spot.

We understand that one of the evidences of the fertility of the soil is the ruins of the old aqueducts which it is proposed to restore, and the fact that a Jesuit mission, usually selected with care as to facilities for cultivation, formerly existed there.

THE BARTLETT PEARS received this week, prepaid, from C. W. Pomeroy, San José, are the best we have seen or tasted.



My Elopement.

"Jim, you may take her into the house to night."

The "her" referred to was the Ariel, one of the staunchest and fastest passenger engines that ever "jerked" a train, and "Jim" was my "stoker."

It was just dark, of a cold, stormy November day, and if ever there was a happy man, it was myself, Jack Everett, seated, ten minutes later, in a warm dining-room, with plenty of time and a steaming supper at my disposal.

But the happiness was too great to be lasting. I was but half through, when my stoker, came rushing into the room.

"What's up?" I asked, holding up the half of a biscuit, and preparing to follow up the success with the other half.

"Maylord is down to the station swearing like a marine because you got the start of him and got away before he saw you."

Maylord was the superintendent, and I knew something was wrong somewhere. Nevertheless I replied: "Tell him I will be down after supper."

"That won't do, Jack. You've got to catch the express, and she's been gone twenty minutes now. We've got the engine out of the house and all fired up. She'll be blowing by the time we get back."

I will not say that I uttered any angry words, but something stuck very hard in my throat—half a biscuit, I suppose. I seized a pie from the table and tossed it to Jim, who, I knew, had not been to supper, and then went for my hat and started.

I found Maylord pacing to and fro in the storm of snow and sleet, and growling like a hungry dog.

"Can you catch the express before she reaches town?" he asked hurriedly.

"I can try. But why not telegraph?"

"That's the mischief of it," he snarled, "the wires are down."

"Well speak lively, for there is no time to fool away," said I, not remarkably good humored at the prospect. Moreover, I had no very particular liking for John Maylord, Esq.

He whipped a letter from his pocket and gave it to me.

"Catch the train, Jack and give the letter to conductor Adams. Whatever he gives you bring back to me without delay."

Now there was something quite mysterious about this, but I had no right to question, so I turned to Jim and asked him if he had taken water.

"Nary a drop, Jack."

"Never mind the water," cried Maylord.

"You have enough to run down."

"Mr. Maylord, I am running this engine," I replied, "and I can't run it without water. If you can, just take my place."

He turned away with something very much like an oath, and I backed up to the tank house.

Just as I stopped a veiled lady sprang lightly into the cab.

"You must let me go with you," she whispered, and then stepped further into the shadow, so that my fireman might not see her.

I was amazed at her sudden appearance and strange request; but before I could reply, she threw aside her veil, revealing the beautiful face of Nellie Maylord.

"Why, Miss Maylord; you cannot mean it!" I exclaimed—yet at the same time I hoped she did—for, to tell the truth, I was in love with her. Of course nobody knew but myself, and I had hitherto been content with a smile or a word, which she often gave me, notwithstanding her father's frowns. To have her so near me, and talking with me, lifted me up to the top shelf of hopeful bliss.

"I must go, Mr. Everett," said she. "I know it may seem strange to you, but when one is in danger, one must do strange things to escape."

"In danger?"

"Yes. And I rely on you to save me."

As she said this, she lifted her lustrous eyes to mine, and gave a look that surprised me out of my usual prudence. I replied: "I will protect you with my life, if need be."

I could not see her face then, for she had turned it away, and frightened at what I had done, I hastened to ask her forgiveness.

"Tut! tut!" said she, placing her hand over my mouth. "If that is true you will surely let me go with you, for a fate worse than death awaits me here. Say yes."

And what else could I say? All that took place while Jim was at the back end of the tender taking in water, and when he came forward to the cab, Nellie was demurely perched upon my seat. I gave him the hint to keep mum, and pulled open the throttle, and away we started on our wild night ride.

How the old Ariel flew over the iron parallels. Accustomed as I was to the noble engine, I yet quaked with sudden terror and shut off the steam. I was thinking of Nellie then, and life never seemed so sweet before. Then as the speed slackened, I would give my noble steed the rein again, and true to the touch, she would leap ahead like a thing of life—past houses, villages and towns, seen ahead for a second, and then far behind us. All the while I stood by Nellie, with one hand upon the throttle and the other upon the reversing lever, peering ahead upon the track illuminated by the Ariel's head-light.

I dared not look at Nellie, for all our lives depended upon my vigilance. I knew not what moment I might overtake the train; so I stood with her so near me, yet so far from me. Sometimes I spoke to her, and she would put her lips to my ear to reply. Again her little hand would clasp my arm as I sped over some rough piece of road that threatened to shake the iron monster to pieces, but a word would reassure her.

At length, in turning a curve, I saw the red light on the rear of the express, and so suddenly that had I not been on my guard there would have been one less passenger coach on the road; and who can tell where Jack Everett would have been? But I was prepared, and there was no danger.

My whistle was recognized; for there was not another like it on the road; and, no doubt, wondering what had sent the Ariel after them, they stopped for me.

"Well I'm beat," exclaimed Charlie Adams, the conductor. "What's in the wind now, Jack?"

For a reply I gave him a letter.

"W-h-e-w! Here, Jack, see what you make of it."

I held the missive up and read: CONDUCTOR ADAMS: My daughter, Nellie Maylord, is running away from her home. I have reasons to believe she is on your train. Send her back on the Ariel in charge of Everett. Use force if necessary. JOHN MAYLORD.

I think I gave a longer and more emphatic whistle than Charley.

"There is some mischief at the bottom of this," said I.

"Exactly, Jack; and if she were on my train, I would not use force to send her back to the old hunk—nary a bit. I would take her the other way, and keep mum."

"Then Charley, I will put her aboard of your train, and send her along. She is in my cab now."

Charley gave vent to an exclamation more forcible than elegant, and after I told him how I came to have Nellie there, he wrote on the back of John Maylord's letter:

MIDWAY BETWEEN C—AND—A—, }
November 12, 11:30 P. M.

JOHN MAYLORD, Esq.: The Ariel has overtaken me, and I have your communication. Miss Nellie Maylord is not on my train, nor has she been on it this trip.

CHARLES ADAMS.

"There, Jack, that does not tell him that she will not be on. Now let us hustle, or I shall not make time."

The transfer was quickly made, but not without some regrets on my part, and I started back.

John Maylord was waiting for me.

"Where is she?" he asked jumping into the cab.

I feigned ignorance, and passed him the letter.

Some prodigious oaths escaped from his lips, but as they were not directed to me, I had nothing to say. Then he hurriedly left me.

This was not the last of it, however. I was put through a course of questioning the next day that would have done credit to a criminal lawyer, and, if I do not mistake, John Maylord, Esq., went away none the wiser.

I met Charley Adams, too.

"Jack," said he, "you have won her everlasting gratitude, not to use a stronger term. It was a close run, though. Old Maylord—he's only her uncle after all—was determined to marry her to old Silver, and as she had not lived quite long enough to be her own mistress—she was one day short—she couldn't do better than run away. The danger is all over now, and she can choose for herself. Better go up as soon

as you can. Here is her address. And Jack, my boy, there are two things that you mustn't forget—that she has got a cool hundred thousand, and your humble servant, when the wedding comes off."

It is needless to say that I went 'up,' even at the risk of losing the Ariel, and I had good success up there. While John Maylord was turning the adjacent country upside down in his search of Nellie, I very quietly married her.

Perhaps John Maylord went mad when he heard of it, but he passed over Nellie's property without a murmur. But I didn't run the Ariel any more, and Nellie now has the love I once felt for my noble engine, and that other love besides. It is not more than she deserves.

WHAT THE WOMEN ARE DOING.—A Western journal sums up the question of what women are doing in this style: A woman is building a railroad; she has contracted for it, oversees the work and pays off the hands. A woman has sunk an oil well in Pennsylvania, called the "Ladies Well." She contracted for the work, superintended and paid for it, and now oversees it all without male help. A woman is a school visitor and director. A woman is a justice of the peace. Two women have built a telegraph line and have two offices in Broadway, New York. Women are photographers. Hundreds of women are lecturers and readers. Women are preachers, and some have congregations. Women are lawyers and doctors. A woman has been appointed deputy in one of the Internal Revenue offices in Ohio. A woman is a photographic amanuensis in the Treasury Department, Washington. A woman has dug a well. A woman has shingled and painted a house. Women are farmers, and bankers, clerks and telegraphic operators and women are still good wives, mothers, sisters and daughters.

SAYING "HATEFUL" THINGS.—What a strange disposition is that which leads people to say "hateful" things for the mere pleasure of saying them. When you have done your best to please, and are feeling very kindly and pleasantly, out will pop some underhand stab which you alone can comprehend—a sneer which is masked, but which is too well aimed to be misunderstood. Just half a dozen words, only for the pleasure of seeing a cheek flush and an eye lose its brightness, only spoken because he is afraid you are too happy or too conceited. Yet they are worse than so many blows. How many sleepless nights have such mean attacks caused tender-hearted men! How after them, one awakes, with aching eyes and head, to remember that speech before everything,—that bright, sharp, well aimed needle of a speech that probed the very center of your soul!—Household.

ROGERS used to tell the following very perfect story: "A friend of mine, in Portland Place, has a wife who inlits upon him every season two or three evening parties. At one of these parties he was standing in a forlorn condition, leaning against the chimney-piece, when a gentleman coming up to him, said, 'Sir, as neither of us are acquainted with any of the people here, I think we had best go home.'"

WORKING WOMEN.—An exchange says that the need of training schools for young women is sufficiently shown by the fact that there are now no less than thirty thousand women and girls in the city of New York alone, being one in thirty of the whole population, who are supporting themselves, and in many cases the families also, by daily toil in various trades and occupations. We venture to proclaim that the ballot will prove the best training school—the surest and quickest elevator.

EVERY parent is like a looking-glass for his children to dress themselves by. Therefore, parents should take care to keep the glass bright and clear, not dull and spotted, as their good example is a rich inheritance for the rising generation.

THEN AND NOW.—The old time bonnets were worn so large that one had to peep under to see the face; now-a-days you see the face, and find some difficulty in discovering the bonnet.

OUT in Iowa, kisses are sold at fairs by the fair. A man pays a certain sum to the general fund, and then selects the girl or woman he desires to kiss.

It was considered honorable for women to toil in olden time. Alexander the Great stood in his palace showing garments made by his own mother.

Young Folks' Column.

Jenny Lind and the Blind Boy.

A poor blind boy, who was highly gifted with musical talent, and who resided in the northern part of the State of Mississippi, had expressed so much anxiety to hear Jenny Lind sing, that his friends raised a subscription to send him on as far as New Orleans to gratify his wish. On arriving there, he accidentally took lodging in the same hotel with Mr. Kyle, the celebrated flutist. One evening Mr. Kyle hearing some very fine and sweet flute ones, listened some time in surprise, and as the sound died away, he said to himself: "Well, that fellow thinks he can play; but now I'll just show him what I can do." Taking up his flute, he played the air of "The Last Rose of Summer," with variations. The blind boy listened with breathless delight, and following the sound he came to the door of Mr. K., and stood there till the last note ceased. With a feeling of impulse he could not restrain he knocked at the door.

"Come in," said Mr. Kyle, and not recognizing the lad, inquired: "What do you want, sir?"

"I am blind said the boy, "and have been drawn hither by your sweet music. Do tell me who you are."

"I am a poor musician," said Kyle "and travel with Jenny Lind as a flutist."

"You are!" exclaimed the lad. "Oh! sir, do take me to hear Jenny Lind; I have come a long way to hear her sing, but the price of the tickets is so high that I am too poor to buy one. Can't you take me to hear her, sir?" he continued, with great feeling. "I have heard she is so good, so generous, so pretty, and sings so sweetly, that I shall never be happy until I hear her."

Mr. Kyle felt deeply for the boy, and promised to take him to hear the lovely Swede. Accordingly he took the blind boy that night, and seated him in a chair behind the scenes. The sweet song of the Nightingale affected the lad deeply, and produced upon him varied sensations. But when Jenny sang "Home, Sweet Home," he melted into tears. On her retiring, she was attracted by the boy's sobbing, and inquired who he was. Mr. Kyle then told the history of the lad in a few words, which much interested her; and sending for him the next day, the poor boy left the generous songstress one hundred dollars richer than when he reached the city.

Influence of a Child.

A gentleman lecturing in the neighborhood of London said:

"Everybody has influence, even that child," pointing to a little girl in her father's arms.

"That's true," cried the man.

At the close he said to the lecturer:—"I beg your pardon, sir, but I could not help speaking. I was a drunkard, but as I did not like to go to the public house alone, I used to carry this child. As I approached the public house one night, hearing a great noise inside, she said 'Don't go, father?' Hold your tongue, child. 'Please, father, don't go.' Hold your tongue I said. Presently a big tear fell on my cheek. I could not go a step further, sir. I turned around and went home, and have never been in a public house since—thank God for it! I am now a happy man, sir, and this little girl has done it all; and when you said that even she had influence, I could not help saying: 'That's true, sir!' All have influence."

LITTLE THINGS.—Little words are the sweetest to hear; little charities fly farthest, and stay longest on the wing; little lakes are the stillest; little hearts are the fullest, and little farms are the best tilled. Little books are the most read, and little songs the most loved, and so are little children. And when nature would make anything especially rare and beautiful, she makes it little—little pearls, little diamonds, little dew. Everybody calls that little which he loves best on earth.

PROMOTED BY LOVE.—One morning I found little Dora busy at the iron-table, smoothing the towels and stockings.

"Isn't it hard work for the little arms?" I asked.

A look like sunshine came into her face, as she glanced toward her mother, who was rocking the baby.

"It isn't hard work when I do it for mamma," she said softly.

DOMESTIC ECONOMY.

The Art of Dining.

The mind has its diseases as well as the body, and I think vegetarianism is one of them. It is by practical experience that we learn what food is proper for us, and not by chemical analysis. Everything we eat with the exception of salt, can be turned into charcoal; yet who can live on charcoal? An experiment has been made by the great chemist, Magendie. He fed geese on gum only and they died on the 16th day; he fed some on starch only, and they died on the 24th day; he fed the others on the two kinds mixed together and they fattened instead of dying. So we must vary our food as much as possible in order to supply the waste of every part of our system. In cooking vegetables, green vegetables, such as cabbage, spinach, etc., they should be put into water at its first boiling, with salt. Dry vegetables, like beans, peas, etc., should be put over the fire in cold, soft water, after having been soaked in luke-warm water—beans for twenty-four hours. Potatoes should be steamed but never boiled. Steam with the skins on. Bear in mind that a potato must never be peeled, as the part immediately under the skin contains much nutriment. Cut out the eyes or germs in any; if young and tender, the skin can be taken off with a scrubbing brush; if old, scrape the skin off and then roast them. In selecting the potato, remember the smaller the eye the better the potato. By cutting a piece from the thickest end, you can tell whether they are sound. They must be either white or pink, according to the kind. Always select beans without spots. Milk and eggs partake of the nature of animal as well as vegetable food. Fish is less nutritious than meat, containing only 20 per cent. of nutritious matter, but ought to be partaken of at least twice a week. It contains more phosphoric matter than any other food, and is very good to supply the waste of our system, especially of the brain. The brain of an idiot contains about one per cent. of phosphoric matter, while that of persons of sound intellect from two to two and a half per cent. The brain of a maniac contains three and a half per cent. We need not fear, however, of losing our senses from eating too much fish. It supplies the waste, but does not augment the proportion of the "phosphoric matter." The chemistry of the matter might, perhaps, be stated with more precision. For instance, instead of saying that everything we eat might be turned into charcoal, it would be more accurate to say that carbon, being the one solid of the four organic elements, the others may be driven off by heat, leaving the carbon behind in the form of charcoal.—*Prof. Blot.*

How to Make Chocolate.

Take an ounce of chocolate for each person; scrape it and boil it about five minutes with about four tablespoonsful of water. When smooth, add about a pint of new milk; let it boil, stirring it well. Buttered toast is the proper accompaniment of chocolate, or light cake, made thus: Half a cupful of butter; one egg; two spoonfuls of cream of tartar, stirred with the butter and egg to a cream, one small cupful of sour milk added to this; three cupsful the same size, of flour, sifted and well beaten into the liquid; and one small spoonful of soda, dissolved in hot water, and mixed in the cake just before putting it in the oven, which must be hot enough to bake it in ten minutes. Bake in narrow cake-pans, filling them three inches deep.

HOW TO WHITEN FLANNEL.—Flannel which has become yellow by age may be restored to its original whiteness by the solution of one and a half pounds of white Marseilles soap in 50 pounds of soft water to which is added two-thirds of an ounce of spirit of sal-ammonia and the whole thoroughly mixed. The flannel is to be immersed in this solution and well agitated, and afterwards thoroughly washed off in pure water.

The same result may also be obtained, still more quickly, by immersing the flannel for an hour in a dilute solution of acid sulphate, and therein dilute hydrochloric acid in the proportion of one part of acid to fifty of water. The vessel is then to be covered over and allowed to remain for a quarter of an hour, when the articles are to be removed and thoroughly washed.

How to Make Coffee.

Professor Blot says: Grind the coffee, rather fine than otherwise. I think it is usually ground too coarse. I use a coffee pot with a filter. You can get them at any tin store. Mixed coffee is best. I prefer a mixture of Java, Mocha and Maracaibo. Soft or spring water is best. Proportions, one quart of water to three ounces of coffee. Of course it can be made stronger or weaker. Four teaspoonsful make a quart of very good coffee for breakfast, but it is too strong for children.

In selecting a filter, or "coffee biggin," choose one with a bottom of silvered gauze, instead of perforated tin, as the perforated bottom lets the finely-ground coffee through. Good coffee cannot be made in what is wrongly called a coffee pot, which has no filter, and is much like a tea pot. Such a utensil requires the coffee to be boiled, which ruins it, leaving a bitter taste, and sends all the aroma to the attic.

When the water is boiling hot, put the coffee in the filter, and pour the water over it, and the coffee is made. If the water does not pass through fast enough, set the kettle on the fire again until the water in it boils, when pour it on again. If all the strength is not extracted at the first making, repeat the operation when needed. The coffee may be dark, even black, when strong, but it must be clear. Each kind of coffee must be roasted separately, and it is better to roast it a day or two before using.

Stewed Beef.

Housewives who are in a habit of using only steaks and roasts make a great mistake. A capacity dish may be made out of the "chuck" as the butchers call it, or the neck when well prepared. Select a piece of meat as large as the demand of your table may require, wash it well to remove all the blood or soil from the outside, have your dinner pot perfectly clean, salt and pepper the meat well, lay it in the bottom and cover it with water; boil it from two to three hours or till it is thoroughly tender; add half an onion, a sprinkle of sage, thyme or summer savory.

If the meat is fat, let the water all stew out a half an hour before it is put on the table, and when your meat is browned well on the lower side in the gravy, turn it over and brown the other side. When ready, take it up, add a little flour thickening to the gravy, or if you have a dredge box shake the flour into the hot gravy and brown it, then add boiling water and you will have a dish equal and to my mind superior to the common roast beef upon boarding house tables.

Care must be used to turn it; and equally necessary is good judgment in having it thoroughly well cooked.

A COOLING BEVERAGE FOR SUMMER.—Hard, hot work in the fields produces thirst, and we give a recipe to make a cool, healthy beverage for the harvester:

Put two gallons of cold water into a pot upon the fire; add to it two ounces of good ginger bruised, and two pounds of white or brown sugar. Let this come to a boil, and continue boiling for about half an hour. Then skim the liquor and pour into a jar or tub, along with one sliced lemon and a half and an ounce of cream tartar. When nearly cold put in a teaspoonful of yeast, to cause the whole to work. The beer is now made; and after it has worked for two days, strain it and bottle for use. Tie down the corks firmly.

HOW TO CLEAN OSTRICH FEATHERS.—White ones, if washed in warm soap suds, dried in the sun on a towel and then well shaken out, will look as well as new, except they will want the beautiful curl, which even at first disappears the first damp day. At first, the feather will have a most discouraging appearance, and a novice is apt to think it perfectly spoiled, but the hot sun, or, failing that, a good fire, never fails to restore its pristine glory.

TO PREPARE LIVER.—When to be roasted whole soak three hours in cold water; when to be boiled, wash only; when to be cooked in slices, have water with a little salt on the fire; as soon as it boils throw the liver in for about five minutes, then take it out and drain it.

TO PRESERVE FRUIT FRESH, beat well together equal measures of honey and spring water in an earthen vessel; put in your apricots, plums and peaches, freshly gathered; cover closely, and they will keep fresh for a year. When taken out for use, they must be rinsed in cold water.

Domestic Receipts.

TO PREPARE BEEF A LA MODE.—Procure a round of beef, weighing ten or twelve pounds. Remove the bone, and place the round in a deep earthenware bowl. Mix in a vessel two equal parts—say a teacupful—of salt, ground allspice, and ground black pepper. Rub the beef well on both sides with half of this mixture, then pour over it a pint of vinegar, and set away until the following morning, when you will use the remainder of the salt and spice, turning the beef so that the part that was under before, shall now be on top. Set away for another night. The second day it will be ready to cook. Before placing in the stove, make holes about an inch deep on both sides of the beef, and fill it with chopped onions. Fill the place left by the bone, with a dressing of bread crumbs and herbs, and bake in the vinegar. This is a most excellent dish when warm, and when cold is very nice for persons who have delicate appetites, or invalids who have little relish for meats.

TO KEEP TOMATOES FOR WINTER USE.—By the following method we may have tomatoes all the year round, which can scarcely be distinguished from those picked fresh from the vine: Dissolve a teacupful of salt in a gallon of water. Pick ripe tomatoes, but not over-ripe, leaving a little of the stem on. The tomatoes must be kept well covered with the brine, and they will keep till spring or longer.

POTTED TONGUE.—Remove the rind of the tongue, cut and pound it in a mortar as fine as possible with the butter, and the spices beaten fine. When perfectly pounded, and the spice well blended with the meat, press it into small potted pans, and pour clarified butter over the top. A little roast veal added to the potted tongue is an improvement.

MILDEWED LINEN may be restored by soaping the spots, and, while wet, covering them with fine chalk, scraped to powder and well rubbed in.

Mechanical Hints.

POLISHING.—The beauty of cabinet work depends upon the care with which it is finished; some clean off by scraping and rubbing with glass paper; this should be done in all cases, but it is not enough, particularly where the grain is anyways soft; a good glass paper is also essential; a polish should then be added. But unless the varnish for cabinet work be very clear and bright, it will give a dingy shade to all light colored woods; this should therefore be a previous care.

THE FRENCH METHOD OF POLISHING.—With a piece of pumice stone and water, pass regularly over the work with the grain, until the rising of the grain is down; then with powdered tripoli and boiled linseed oil polish the work to a bright face; this will be a very superior polish, but it requires considerable time.

CHEAP OIL POLISH.—The cheapest and most simple oil polish is, first, having well cleared the work, to oil the article with linseed oil, when by oiling and rubbing for a short time a bright gloss will be produced, and the natural color of the wood will show to much advantage. When it is required to darken the color, alkanet root, dragon's blood, or other coloring matters which dissolve in oil, slightly heated, are mixed with the above.

TO POLISH IVORY.—If ivory be polished with putty and water, by means of a rubber made of old hat, it will in a short time produce a fine gloss.

TO POLISH ANY WORK OF PEARL.—Go over it with pumice stone, finely powdered, (first washed to separate the impurities and dirt,) with which you may polish it very smooth; then apply putty powder as directed for ivory, and it will produce a fine gloss and a good color.

TO POLISH TORTOISE SHELL OR HORN.—Having scraped your work perfectly smooth and level, rub it with very fine sand paper or Dutch rushes; repeat the rubbing with a bit of felt dipped in very finely powdered charcoal with water, and lastly with rotten stone or putty powder; and finish with a piece of soft wash leather, damped with a little sweet oil.

FRENCH POLISHING.—All polishes are used much in the same way. If your work be porous, or the grain coarse, it will be necessary, previous to polishing, to give it a coat of clear size previous to your commencing with the polish; and when dry, gently go over it with very fine glass paper; the glass will fill up the pores and prevent the waste of the polish by being absorbed into the wood, and be also saving of considerable time in the operation.

LIFE THOUGHTS.

ABOVE all things reverence thyself.—*Pythagoras.*

ADVISE not what is most pleasant, but what is best.—*Solon.*

ARROGANCE is the obstruction of wisdom.—*Bion.*

AVARICE and vanity are the principal elements of all evil.—*Timon.*

A BLUSH is the complexion of virtue.—*Theophrastus and Diogenes.*

AN honorable death is better than an inglorious life.—*Socrates.*

ALL things should be common between friends; our friend is another self.—*Pythagoras.*

A GOOD man cares not for reproach of evil men.—*Democritus.*

A JUST man ought to be esteemed in preference to a relation.—*Antisthenes.*

A MAN ought to be good, or to seem so.—*Democritus.*

A STATUE stands firm on its base, a virtuous man on firm resolutions.—*Socrates.*

A MAN must not only live to eat and drink, but to use his life for the attainment of happiness.—*Zeno.*

An orator without judgment, is a horse without a bridle.—*Theophrastus.*

As the gods are consummately happy, the nearer a man approaches to a similitude with them, the happier and better he is.—*Socrates.*

A WISE man is not governed by the laws and ordinances of men, but is governed by the rule of virtue.—*Antisthenes.*

As gangrenes are the most dangerous of bodily wounds, so insatiate avarice is the worst disease of the mind.—*Democritus.*

Honest Words for an Earnest Man.

Religion does not altogether consist of devotional exercises, but as well, of daily work. We get a wrong idea of Christianity when we reduce it all to songs and sermons, to prayers, solemn faces, and ecclesiastical paraphernalia. It is not especially for Sabbaths and sanctuaries, but also for week days, for shops, for homes, for mills, for stores, for streets and fields. Religion is largely an out-door institution. Its Author was born, baptized, transfigured, and crucified under no roof but the sky. It means diligence in business, serving the Lord in common vocation and every day relations, as well as in consecrated syllables on set occasions.

Jesus was more sublimely great, standing unknown at the carpenter's bench in Nazareth, with an apron on, than if he had been surpliced as a priest in the temple, or arrayed in robes of royalty on Pilate's throne. He was greater with an adze in his hand than a crown on his head.

Christianity allows no aversion toward the mechanic. It gives him an honorable position. It invites him to its home and visits him in his. Yet how many rich young ladies who would scorn to associate with the sons and daughters of our workmen! The matrimonial problems that busy their brains involve such fractions as lawyers, physicians, large salaried preachers, wholesale merchants, millionaires, and gentlemen of leisure. It would be ridiculous, they think to throw themselves away on mechanics.

Of course society has its affinities, and that is well. Education grants it. Refinement and culture seek their level. But we dig down for gold. Too often dissipated dandyism is petted and honored, while intelligent labor is denied a place. The difference between building houses and selling is not so great that one should be considered contemptible and the other illustrious. Really, as a business, it makes but little difference whether a man mends clothes, bones, pens, houses, laws or morals. Work is work and nothing less; man is man and nothing more.—*Alexander Clark.*

Reprove mildly and sweetly, in the calmest manner, in the gentlest terms; not hastily or fiercely, nor with sour looks, or in bitter language; for these ways do beget all the evil, and hinder the best effects of reproof. They do certainly inflame and disturb the person reprovéd.

THE intoxication of anger, like that of the grape, shows us to others, but hides us from ourselves.

TO BE ever active in laudable pursuits is the distinguishing characteristic of a man of merit.

Road Steamer in New York.

BY OUR NEW YORK EDITOR.

In the East, road steamers are a good deal of a novelty. A few have been built from time to time, run for a year or two and then broken up or laid aside. The most of them have come under the head of experiments. Steam road rollers are rather more common and practical. New York city has one which is in constant use on the Boulevards. Brooklyn has another in practical operation, built from designs by Mr. J. K. Fisher, of this city. Hartford, Conn., recently imported one of Messrs. Aveling & Porter's steam road rollers from England. The owners of the Dura pavement have a roller designed and built by Mr. Richard (?) Baxter, Jr., if we remember rightly. This little machine is quite handy and has been doing very fair work in pavement laying in this city. Its distinctive feature is a furnace which keeps the roller constantly hot, a necessary requirement in the work it has to perform.

Mr. Richard Dugion of this city, owns a passenger steamer for common roads. It was built by him several years ago, and is used occasionally, though not often. It is carefully taken care of and is always ready to fire up should the proprietor wish to make a trip.

This machine completes the list of working road engines in the Eastern States, so far as we know.

A few days since—during the last week in July—Mr. Oastler, the agent in America for Messrs. Aveling & Porter, dropped into our sanctum and informed us that he had just received a $5\frac{1}{2}$ ton traction engine from England, and would be pleased to have us attend its first trial in America which would take place in a few days. In due season the notice came and we hurried off to the ferry to take the train to Waverly where the trial was to take place. It is of no use to tell our readers *where* the town is situated nor how to get there, because in the first place it is situated in "foreign parts"—to wit, in New Jersey; and secondly because it is distant at least a forty minutes' ride by rail from the city.

The Fair ground outside of its race course has a large circuit of ordinary dirt road, and upon this road the trial was to take place. After taking a lunch and getting ourselves into the best of humor we walked to the ground and found the steamer all ready for the trial with steam up.

Description and Trial of the Engine.

In general appearance, the engine is somewhat like the portable steam engines mounted on wheels that are used for driving portable saw mills. The wheels are about 18 inches broad. The driving wheels are five feet in diameter and the forward or leading ones scant four. We did not measure them but speak simply from memory. The iron tires of the driving wheels are armed with oblique cleats of boiler plate, and have holes for the insertion of iron spikes when occasion requires.

There is a single cylinder and a large fly-wheel to enable the engine to pass the centers. The water tank, coal bunkers and drivers station are at the rear of the boiler, and project so far as to throw the greater part of the weight upon the driving wheels, only enough coming upon the leading wheels to enable them to guide the engine. The steering wheel is at the engineer's right hand so that he can guide the machine without difficulty while attending to his other duties.

The connection between the engine and driving wheels is by gearing so arranged that in turning, either wheel can revolve faster or slower than the other, while the engine exerts equal force on each. The valve is worked by an ordinary link motion with the usual locomotive reversing lever.

The inner wheel describes a circle about six feet in diameter when making the sharpest turns. The engine was run at various speeds, up hill and down, along levels, over grass land and around in small circles. At special request of the party the "driver" ran the engine up a sharp grade covered with grass. The inclination

was, judged by the eye, one in five, at any rate it was as great as any one would wish to meet with a loaded team. It did this with ease and seemed well under control, and a handy engine to handle.

To recapitulate—the engine weighs $5\frac{1}{2}$ tons, costs \$3,500, is of 26 indicated horsepower, is capable of pulling a load of 12 tons, besides its own weight, on ordinary roads, up grades of one in twelve at an expense of 300 pounds of coal per ten hours steaming.

The road bed over which it passed was of dirt and seemed improved by its passage. For the life of us we cannot see why engines of this kind are not profitable investments for men who have heavy teaming to do over ordinary roads. These engines can certainly go anywhere that it would be safe or prudent for a man to go with a loaded team.

We shall next week give an account of a competitive trial of traction engines in England, in which a sister engine to the one here described took the first premium. It will be of interest as it shows conclusively what such engines are capable of doing when pushed to their utmost.

Cultivation of the Castor-Oil Bean.

Several correspondents have recently made inquiry with regard to the cultivation of the castor-oil bean in this country, in reply to whom we condense from an article published in the SCIENTIFIC PRESS for March 5, 1870, are as follows: Enough has been done with the plant in California to fully prove that the soil and climate here are much better suited to the growth of the plant than in any of the Mississippi States where its cultivation has been introduced. It has been fully tried, in Los Angeles, Santa Clara, Alameda, Yuba and Sutter counties. Some four or five hundred acres are in cultivation in the two last named, about 200 of which are owned by Dr. McDaniels, who resides some three miles below Yuba City, and nearly 200 more by Mr. C. Hodges.

Method of Cultivation.

The castor bean is cultivated very much like corn, and requires about the same amount of labor. The time for planting is during the month of April—depending somewhat on the season and locality.

A light sandy soil is best suited to the crop. It is not necessary that it should be richly or highly manured. In fact, it is claimed that the growth of two or three successive crops of beans, and a careful return to the earth, in the form of manure of the pods, leaves and stalks, will bring up to good condition, lands that have been exhausted by other crops; as this plant gathers most of its nourishment from the atmosphere, very little being taken away from the field in the fruit. The following simple directions are all that is needed for its culture.

Plant, about the first of April, three seeds in a hill; lay off the ground in hills six feet apart in each direction, as the plant grows high and bushy. Between every eighth and ninth row, one way, a space of eight or nine, instead of six feet, should be left to allow of the passage of a wagon in gathering the crops, as heretofore shown. When the plant is about four inches high, take away all but one—leaving the most vigorous; cultivate the same as corn, keeping the ground clear of weeds. When the stalks are one foot high they will outgrow any weed. The yield is from 1,500 to 2,000 pounds to the acre. Before planting it is well to soak the beans in water from fifteen to twenty hours. The seed should be placed in a suitable vessel and the water poured over them, about as warm as the hand will bear.

Mode of Gathering and Shelling the Beans.

The beans grow in pods, arranged in spike-shaped bunches, about eighteen inches long, and should be gathered as soon as the pods begin to turn from a red to a greenish-brown color. The beans will begin to ripen during the month of August, and picking will be continuous for two months or more. The great drawback to the crop is the care and labor required in gathering it, as the ground has to be passed over, and every plant examined a great number of times. If the pods are not gathered as fast as they begin to turn they will burst of themselves and scatter the seed upon the ground, where it will be lost. They do not open gradually, but with a sudden "pop," which often throws the beans to a distance of ten feet.

In order to secure the seed and save waste, the pods are picked just before they are ready to burst. In gathering, a wagon is drawn along through each of the eight-

foot passage-ways, and pickers look over the four rows upon either side, picking off the clusters or spikes which are of the proper color, depositing them in the wagon, to be drawn to a drying platform or house. Each spike contains from fifty to one hundred pods or capsules, and each capsule three beans. In the Atlantic States houses must be employed on account of the frequent rains; here an open platform is all that is needed. This platform may have either a ground or plank floor, and is better to be slightly sloping; if ground, the surface should be carefully cleaned, smoothed and rolled hard, as for a brick kiln, and should be perfectly dry.

The pods, as they are gathered, are spread thinly over a portion of the floor, and stirred occasionally with a rake. In four or five days after deposit, the pods will all have been opened by the heat of the sun, the beans being thrown or popped out. Being heavy and small they will work their way to the bottom, so that the pods can be raked off, leaving the bean to be easily gathered up. The beans should be kept perfectly dry, and, after being run through a fanning mill, or by some other means divested of the small quantity of fine chaff, which may be gathered up with them, are ready for the market or mill. In the light of the picking season the field should be passed over by the pickers as often as every other day.

In laying out the platform, care should be taken to have it sufficiently large as to leave at least twelve or fifteen feet all around it, unoccupied by pods, or in popping out, the beans will be thrown off from the same and scattered or lost.

A fair crop in Illinois is from sixteen to twenty bushels to the acre; in the northern part of the State, ten or twelve is considered good. In Texas, it is said that forty and even fifty bushels is sometimes realized. The reported yield in this State is from 30 to 45 bushels. The beans weigh 46 pounds to the bushel.

In the Mississippi States, the castor bean has been planted every year. In India, it becomes a tree, growing on from year to year, attaining a height of thirty or forty feet and bearing in wonderful profusion. The same, to a greater or less extent, is true of the plant in Texas, and in the southern part of the State. In the Sacramento valley we have seen individual plants, two or three years old, and fifteen or twenty feet high.

The Approaching Fairs.

The first of the District Agricultural Fairs to be held this season will be that of the Santa Clara Agricultural Society, which will commence on Monday next, August, 28th, and will continue five days. Preparations have been made to render this the most complete and successful of any fair which has ever been held in the Santa Clara Valley.

The next, in succession, will be that of the San Joaquin Agricultural Society, which will commence on Tuesday, Sept. 12th and continue four days. The farmers of that section of the State are already taking an active interest in securing a proper display of cereals, vegetables, wool, stock, minerals, etc. The Managers offer prizes for the best essays on the following designated subjects: On raising and managing cattle; on horses; on swine; on poultry; on sheep; on the culture of the vine in this State; on the subject of Agricultural Fairs and the duties of communities in relation to the same; essay on California grasses. For the best essay on each of these subjects, the Society offers a framed diploma.

The State Fair follows on Monday the 18th of Sept., continuing through the week. This fair is noticed at length elsewhere.

The Sonoma and Marin District Society holds its fair at Petaluma September 25th, continuing six days. Prizes amounting to over \$5,000 have been offered in the various competitive departments, ranging from one to twenty dollars, according to class.

The upper Sacramento Valley holds its fair at Chico on the 26th of September.

The Southern District Agricultural Society held a meeting in Los Angeles on the 5th inst., at which arrangements were

made for perfecting their title to the grounds, selected by the Society, for properly laying off the same, erecting buildings, etc. An assessment of 15 per cent. was levied on the stock of the Association to meet the necessary expenses, and Messrs. Butler, Ferguson, and G. O. Tiffany were appointed a committee to perfect the premium list of the agricultural, floral and mechanical departments. The officers of this Society are straining every nerve to make the coming fair a complete success. The parties in San Bernardino, San Diego and other counties, are preparing to bring their finest stock, and with the liberality that should prevail in Los Angeles the inauguration should prove a brilliant one.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING AUGUST 8TH.

VARIABLE CUT-OFF FOR STEAM ENGINES. William B. Cross, Sacramento, Cal.
POULTRY FOUNTAIN.—John S. Orndorf, Virginia City, Nevada.
PADDLE-WHEEL.—Nathaniel P. Sheldon, San Francisco, Cal.
JOURNAL BEARING.—Sydney P. Cook and Hiram Burt Cook, San Francisco, Cal.
MEDICAL COMPOUND FOR TREATING RHEUMATISM, ETC.—Wm. Curless, Truckee, Cal.
DENTAL INSTRUMENT.—Charles H. Mack, Portland, Oregon.
WASHING MACHINE.—Alfred T. Sullivan, San Jose, Cal.
MEDICINAL BEVERAGE.—Asher S. Taylor, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

"THE VISITORS' GUIDE AND CATALOGUE TO THE EIGHTH INDUSTRIAL FAIR" has made its appearance, and several of our contemporaries have been led into the error of supposing that this is the first publication of the kind ever made in connection with the Exhibition of the Mechanics' Institute. The *Alta* of Tuesday corrects that error in the following words:—"Although to Mr. Price belongs the full credit of having again started the catalogue, we were in error in speaking of it yesterday as the first of its kind. Messrs. Dewey & Co., of the MINING AND SCIENTIFIC PRESS, in 1865, issued a very neat and comprehensive catalogue for the Fifth Industrial Exhibition."

BAD TASTE.—Why are houses, and more especially farm houses, in the United States, so universally painted white? A neat white house, half hidden by the foliage of surrounding trees, is often a pretty object, and in perfect good taste; but a grim rectangular structure, standing unrelieved, as too many houses do, receives but an addition to its ugliness by the coat of glaring paint which covers it. A ride through the farming districts of our Western States is too suggestive of a passage through one vast graveyard, with tombstones set at stated intervals. These whitened sepulchres could be made more slightly if painted in any other color. Neutral colors are rarely offensive and are easily obtained; only the inclination to conventionality causes the present style, and in this matter good taste should not be influenced by the many existing bad examples, save as they show what to avoid.—*American Builder*.

THE LATEST thing on strawberries which we have met is the following from an Eastern exchange:—"Strawberries grow in California all the year round. The strawberries attain a considerable size. It is not uncommon for an ordinary family to subsist on one for one week. It must not be supposed that all the varieties are of this size. Some are much smaller, and it is not an uncommon thing for a healthy man to finish one a meal."

Industrial Fairs for 1871.

CALIFORNIA.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

COLORADO.

The Colorado Agricultural Annual Fair, at Denver City, commences September 12th, and continues five days.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, THURS., A. M., Aug. 24th.

FLOUR—The export demand has been quite active during the week, but is moderate at the close. A good enquiry exists for home consumption. The mills are fully employed running night and day. The sales reported include 3,000 bbls. Cal. extra; 2,000 do Oregon extra and 4,000 Cal. superfine, all at current rates. We quote as follows:

Superfine, \$5.87@6.12; extra, in sacks, \$6.50@6.62. Standard Oregon brands, extra, may be quoted \$6.00@6.50.

WHEAT—The market continues firm, with limited receipts. Prices are still held above the general limit of foreign orders—consequently vessels fill up slowly, and there have been no cargo clearance for the week. Two ships are loading at Oakland, and two others are engaged to follow as soon as those now in dock shall have been filled. Several are loading in this city—but filling up slowly.

The latest report from the European crops, show a small prospective falling off, estimated at 600,000 bushels out of an aggregate crop of 104,000,000; not enough to materially effect the market. The supplies now in store in England are above the average for the season.

The receipts have been quite limited during the week. Sales have aggregated about 30,000 sks. fair to choice at \$2.17½@2.25. At the close we quote fair to choice at the above figures, with shipping at \$2.20@2.22½, and milling at \$2.20@2.25. A single transaction (private) is reported at an advance on \$2.25.

The Liverpool market comes through at 11s. 8p. per cental—an advance of one penny since our last summary.

BARLEY—The market still rules very firm with a further slight advance in prices. Sales have aggregated about 12,000 sacks—mostly new, at \$1.80@1.90. At the close we quote new at \$1.80@1.85, and old at \$1.92@2.00.

OATS—Have been in fair demand at improved prices. Sales of 4,000 sacks are reported at from \$1.85@2.00 from fair to choice.

CORN—The market has improved. We note sales of 130 sks. choice yellow at \$2.40; 250 choice white \$2.42½.

CORNMEAL—Is quotable at \$2.75@3.25, according to quality.

BUCKWHEAT—Still nominal at \$3.50.

RYE—In liberal supply at \$1.85@2.00.

STRAW—Quotable at \$8@10 by the cargo.

BRAN—The mill price is \$24.00@25.00. A sale of 30 tons from the wharf is reported at \$23.

MIDDINGS—For feed are now selling at \$35@37.50 and \$40 for fine.

OIL CAKE MEAL—Is quotable at \$40 from the mill.

HAY—The receipts are fair with good demand. We quote ordinary to choice at \$20.00@23.00 per ton. Sales of four cargoes were reported on Wednesday at from \$19.50@22.50.

HONEY—We quote Los Angeles comb 12@13c. Potter's in 2-lb. cans, \$4.50 per doz.

POTATOES—The receipts continue free, with declining rates. Mission are selling at 62@85c; we quote Half-moon Bay 95c@1.00; Lighthouse 70@75c; Peachblows, \$1.00.

SWEET POTATOES—are sold at \$2.00@2.25 on the wharf.

HOPS—Demand light—prices nominal crops of 1868 and '69 from 4c@7c; for 1870, 10c@12½. The new crop will begin to arrive in about two weeks.

The market at the East has been very excited and prices are higher, 25c having been paid for fancy State, now held higher, holders being very confident. The improvement is ascribed to the advice from the country, which represent the crop as being in a remarkably unfavorable condition, and to European advices. For further particulars see reading columns.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9c. Sales during the week 1,800 Cal. dry, and 1,360 salted.

WOOL—Two of the leading houses have sold 30,000 and 40,000 lbs. respectively during the past week, at prices ranging from 28c to 32c for clean Fall and Lambs. Burry and heavy Wools are almost entirely neglected. Small sales of Oregon have been made at 42@44c per lb. Six buyers from the Eastern States went to Australia by the last steamer. It is expected that their purchases will be shipped via San Francisco.

TALLOW—The extremes may be quoted from 9@9½c, with demand in excess of supply.

SEEDS—Flax 3@3½c, Canary, 8c., Alfalfa, 16c, Mustard 4@5½c.

PROVISIONS—California Bacon 14½@15c; Oregon, 14½@15½; Chicago 14@16½c; Cal. Hams 14½@15; Oregon do, 14½@15c; California Sugar-cured Hams, 17@18c; Oregon do, 17@18c; Eastern do, 19@20c; California Smoked Beef, 13@14c.

BEANS—Are selling at the following rates: small White and Pea, 2@2½c; small Butter 2@2½c; large do, 2½@3c; Pink 1½c; Bayo, 2½@3c per lb.

ONIONS—We quote at 50c, for red and 50@85c for silver skins. Garlic 85c.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Pecan, 23@25c per lb., walnuts, 12@15c, Hickory, 12c; Brazil, 16c.

FRUIT—Tahitian Oranges, \$15@18; Limes \$10 per 1,000 Cal. lemons, \$6 per 100. Bananas, \$1 50@2 50 per bunch; Cocoanuts, \$6@10 per 100; Apples, 30c@50c; Pears, 50c@75c per box & Bartlett's 75c@1.00; Peaches, 54c@1.00 basket; Quince 75c; German Prunes 4@5c; Figs 7@8c; Raspberries, 12½c per lb; Plums, 1c@3c per lb.; Blackberries, 4@5c; Figs, 7@8c; Grapes—Sweet water, 2@6c; Muscat of Alexandria, 4@5c; Rose of Peru, 4@5c; Flame Tokay 6@8c; Isabella 8c. There is much poor fruit in the market. One house was obliged to dump 300 boxes of spoiled Mission Grapes into the Bay on Tuesday, as they were unsealable for wine, being too green. 800 boxes Bartlett pears were sold for canning at from 40@50c per box.

VEGETABLES—Cabbage is selling at ¼@1@1½c; Garlic, 1c; String Beans, 1½@2c; Summer Squash \$1½; Tomatoes, 30c@40c for river, 75c@1.00 for bay; Cucumbers, \$1.00@1.25 per box; Green Corn, 8@18c per doz; Watermelons, 5@12c each, and Canteloupes 30c@1.50 per doz; Marrowfat Squash \$7@8 per ton.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 9@10c per lb. Do 2d quality 7@8c per lb. Do 3d do 5@6c per lb.

VEAL—Extremes, 9@11c.

MUTTON—6@7c per lb.

LAMB—May be quoted at from 8@9c per lb.

PORK—Undressed is quotable at 5½@6½c, dressed, 8½@9c. There are many thin hogs in the market.

POULTRY—Live Turkeys, 18@20c per lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$3.50@4.00; Ducks, \$5.00@5.60 per doz. Geese, \$12@15 per dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 25@32c; California firkin butter, 25@30c. Eastern firkin 15@25c.

CHEESE—In fair supply, California new, 10@14c, California Factory 16c., Eastern, 16@17c. for new.

Eggs—California fresh, 45.

LARD—California Lard 11-lb tins, 14@15c; Oregon in bbls. 14½c; Eastern do. 13@14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

TABLE OF MISCELLANEOUS.

| | |
|------------------------------|-------------------------------|
| Sugar, crsh'd, lb. \$ 14½@15 | Hemp Seed, lb. \$ 7 @ 9 |
| Hawaiian, do. 9 @ 12 | Castor Beans, lb. 4 @ 4½ |
| Coffee, Cos. R, lb. 15½ @ 16 | Castor Oil, gal. 1 75 @ 2 00 |
| Rio, do. 16 @ | Linseed Oil, gal. 1 05 @ 1 10 |
| Tea, Japan, lb. 50 @ 60 | Broom Corn, lb. 3 @ 3 50 |
| Green, do. 50 @ 60 | Beeswax, lb. 27 @ 30 |
| Rice, Haw'n, lb. 8½ @ 9 | Peanuts, lb. 5 @ 7 |
| China, do. 6 @ 7 | Corn Meal, cwt. 2 50 @ 4 00 |
| Coal Oil, gal. 50 @ 60 | Onions, cwt. 1 50 @ 3 50 |
| Candles, lb. 15 @ 18 | |

A Good Binder for \$1.50.

Subscribers for this journal can obtain our Patent Elastic Newspaper File Holder and Binder for \$1.50—containing gilt title of the paper on the cover. It preserves the papers completely and in such shape that they may be quickly fastened and retained in book form at the end of the volume, and the binder (which is very durable) used continuously for subsequent volumes. Sent postage free. It can be used for Harper's Weekly and other papers of similar size. If not entirely pleased, purchasers may return them within 30 days. Just the thing for libraries and reading rooms, and all who wish to file the Press.

A FLORENCE SEWING MACHINE, but slightly used, and good as new, for sale at 10 per cent. less than its cost—\$67.50. Part of the money may be paid in installments by a person who gives good recommendations—in the city, or in the country near San Francisco. To be seen at John I. Tay's, Broadway, Oakland. apl-bp-1f

San Francisco Retail Market Rates.

FRIDAY, August 18, 1871

MISCELLANEOUS.

| | |
|-----------------------------|---------------------------|
| Butter, Cal fr. lb. 35 @ 45 | Wool Sacks, new @ 70 |
| Pickled, Cal lb. 35 @ 45 | Wheat-sks, 22x36 12 @ 13 |
| do Oregon, lb. 35 @ 45 | Potato G'y Bags. 22 @ 23 |
| Honey, lb. 25 @ 30 | Second-hand do 15 @ 16 |
| Cheese, lb. 20 @ 25 | Deer Skins, lb. 15 @ 22 |
| Eggs, per doz. 35 @ 50 | Sheep skins, wlon 50 @ 75 |
| Lard, lb. 15 @ 20 | Sheep Corn, 12½ @ 25 |
| Sugar, cr. 11 @ 10 | Goat skins, each. 25 @ 50 |
| Brown, do. 10 @ 13 | Dry Cal. Hides. 17 @ 20 |
| Beet, do. 1 @ 10 | Salted do. 9½ @ 10 |
| Sugar, Map. lb. 25 @ 30 | Dry Mex. Hides. 17 @ 20 |
| Plums, dried, lb. 15 @ 25 | |
| Peaches, dried, 15 @ 25 | |

PRODUCE, ETC.

| | |
|--------------------------------|-----------------------------|
| Codfish, dry, lb. 6 @ 12½ | Barley, cwt. 1 65 @ 1 75 |
| Flour, ex. 7 bbl. 7 00 @ 7 15 | Beans, cwt. do. 50 @ 53 25 |
| Superfine, do. 5 50 @ 6 00 | Potatoes, cwt. 61 @ 25 |
| Corn Meal, 100 lb. 3 00 @ 3 25 | Potatoes, new. 75 @ 50 |
| Wheat, 100 lbs. 2 20 @ 2 25 | Hay, 3 ton. 20 00 @ 21 00 |
| Oats, 100 lbs. 1 90 @ 2 10 | Live Oak Wood. 9 00 @ 10 00 |

FRUITS, VEGETABLES, ETC.

| | |
|--------------------------------|----------------------------|
| Pine Apples, t. 50 @ 90 | Cabbage, lb. doz. 75 @ 100 |
| Bananas, lb. 3 00 @ 3 50 | Carrots, lb. doz. 10 @ 25 |
| Cal. Walnuts, lb. 10 @ 20 | Celery, lb. doz. 75 @ 100 |
| Cranberries, lb. 75 @ 100 | Cress, lb. doz. 20 @ 25 |
| Cranberries, O. 75 @ 100 | Dried Herbs, lb. 25 @ 50 |
| Apples, Early, bx 50 @ 1 25 | Egg Plant. 8 @ |
| Red Astran, 1 50 @ 2 50 | Garlics. 5 @ 8 |
| Red June, 2 00 @ 2 50 | Green Peas, lb. 20 @ 25 |
| Pears, table, lb. 75 @ 1 25 | Green Corn, 12½ @ 25 |
| Plums, Cherry, 6 @ 8 | Sugar Peas, lb. 20 @ 25 |
| June, lb. 10 @ 12½ | Cucumbers, doz. 15 @ 25 |
| Apricots, Royal, 3 @ 4 | Lettuce, lb. doz. 12 @ 25 |
| Moorpark, lb. 3 @ 5 | Mushrooms, lb. 25 @ 50 |
| White, lb. 3 @ 5 | Horseradish, lb. 50 @ 75 |
| Cherries, lb. 5 @ 10 | Okra, dried, lb. 12½ @ 25 |
| Currants, lb. 6 @ 8 | Okra, green, lb. 12½ @ 25 |
| Gooseberries, lb. 3 @ 8 | Pumpkins, lb. 3 @ 4 |
| Raspberries, lb. 18 @ 20 | Parsnips, bunches 25 @ 25 |
| Blackberries, lb. 8 @ 10 | Parsley, lb. 50 @ 75 |
| Oranges, cwt. 30 @ 40 | Rhubarb, lb. 6 @ 75 |
| Lemons, cwt. 50 @ 60 | Rushes, t. buns 25 @ 25 |
| Limes, cwt. 25 @ 30 | Green Peppers, 10 @ 10 |
| Figs, dried, lb. 6 @ 8 | Red, do. 10 @ 25 |
| Asparagus, lb. 6 @ 10 | Summer Squash. 6 @ 6 |
| Artichokes, doz. 50 @ 75 | Marrowfat, do. 4 @ 4 |
| Artichokes, doz. 50 @ 75 | Hubbard, do. 4 @ 4 |
| Brussels sprigs, 20 @ 25 | String Beans, lb. 6 @ 8 |
| Beets, doz. 20 @ 25 | Dry Lima, sh. 6 @ 8 |
| Potatoes, lb. 2 @ 3 | Spinage, lb. bskt. 25 @ 50 |
| Potatoes, sweet, 4 @ 5 | Okra, dried, lb. 12 @ 25 |
| Broccoli, lb. doz. 1 50 @ 2 00 | Turnips, lb. doz. 25 @ 25 |
| Cauliflower, t. 1 00 @ 1 00 | New Tomatoes, 5 @ 8 |

POULTRY, GAME, MEATS, ETC.

| | |
|------------------------------|--------------------------------|
| Chickens, apiece 50 @ 75 | Bacon, Cal. lb. 18 @ 20 |
| Turkeys, lb. 20 @ 25 | Oregon, do. 18 @ 20 |
| Ducks, wild, lb. 20 @ 25 | Hams, Cal. lb. 18 @ 20 |
| Tame, do. 1 50 @ 2 00 | Hams, Cross s c 25 @ 25 |
| Teal, lb. doz. 20 @ 25 | Choice D field 25 @ 25 |
| Geese, wild, each 20 @ 25 | Fresh, do. 25 @ 25 |
| Tame, pair. 2 50 @ 3 00 | Johnson's Or. 25 @ 25 |
| From Chicago. 25 @ 25 | Salmon, lb. 8 @ 12½ |
| Hens, each. 75 @ 85 | Smoked, new, 10 @ 12 |
| Snipe, lb. doz. 20 @ 25 | Pickled, lb. 6 @ 8 |
| English, lb. 20 @ 25 | Pickled, lb. 10 @ 12 |
| Venison, lb. 10 @ 15 | Kingfish, lb. 10 @ 15 |
| Quails, lb. doz. 20 @ 25 | Perch, s. water, lb. 12½ @ 15 |
| Pigeons, dom. doz. 30 @ 40 | Fresh water, lb. 12½ @ 15 |
| Wild, do. 1 50 @ 2 00 | Lake Big Trout* 6 @ 8 |
| Hares, each 40 @ 50 | Smelts, lb. 6 @ 8 |
| Rabbits, each 50 @ 1 00 | Herring, fresh. 10 @ 10 |
| Wild, do. 2 15 @ 2 25 | Sm'kd, per 100 61 00 |
| Squirrel, pair. 25 @ 30 | Tomcod, lb. 15 @ 18½ |
| Beef, tend. lb. 20 @ 25 | Terrapin, lb. doz. 3 00 @ 4 00 |
| Sirloin and rib 18 @ 20 | Mackerel, p. k. ea. 4 @ 5 |
| Corned, lb. 12 @ 15 | Halibut, lb. 50 @ 60 |
| Smoked, lb. 15 @ 18 | Sea Bass, lb. 12½ @ 15 |
| Pork, rib, etc. lb. 12½ @ 15 | Halibut, lb. 50 @ 60 |
| Chops, do. lb. 12 @ 15 | Sturgeon, lb. 4 @ 5 |
| Veal, lb. 15 @ 20 | Oysters, lb. 100. 1 00 @ 1 25 |
| Cutlet, lb. 15 @ 20 | Cresp. lb. doz. 50 @ 60 |
| Mutton, chops. 12½ @ 15 | Turbot, lb. 50 @ 60 |
| Leg, lb. 12½ @ 15 | Crabs, lb. doz. 1 00 @ 1 00 |
| Lamb, lb. 18 @ 20 | Soft Shell. 37 @ 50 |
| Tongues, beef, ea 15 @ 15 | Shrimps. 10 @ 12 |
| Tongues, pig, ca 15 @ 15 | Pompinio, lb. 1 10 @ 1 10 |

* Per lb. † Per dozen. ‡ Per gallon.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|---|--|
| SAN FRANCISCO, Thursday, August 24. | |
| SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good. | |
| French Kins, lb. 25 @ 30 | |
| Santa Cruz Leather, lb. 25 @ 30 | |
| Country Leather, lb. 25 @ 30 | |
| Leading French stocks have declined slightly. California kips are higher and in demand. | |
| Jodot, 8 Kil, per doz. 80 00 @ 80 00 | |
| Jodot, 11 to 19 Kil, per doz. 82 00 @ 86 00 | |
| Jodot, second choice, 11 to 15 Kil, per doz. 68 00 @ 88 00 | |
| Lemoine, 16 to 19 Kil, per doz. 96 00 @ 100 00 | |
| Levin, 12 and 13 Kil, per doz. 68 00 @ 70 00 | |
| Cornellian, 16 Kil, per doz. 72 00 @ 72 00 | |
| Cornellian, 12 to 14 Kil, per doz. 68 00 @ 70 00 | |
| Ogerau Calif, per doz. 54 00 @ 54 00 | |
| Mercier Calif, 6 Kil, per doz. 65 00 @ 65 00 | |
| Robert Calif, 7 and 8 Kil. 35 00 @ 40 00 | |
| Common French Calf Skins, per doz. 35 00 @ 75 00 | |
| French Kins, lb. 25 @ 30 | |
| California Kip, lb. 25 @ 30 | |
| Eastern Wheel Stuffed Calf, lb. 1 10 @ 1 25 | |
| Eastern Bench Stuffed Calf, lb. 1 10 @ 1 25 | |
| Eastern Calf for Backs, lb. 1 15 @ 1 25 | |
| Sheep Hops for Topping, all colors, per doz. 8 00 @ 13 00 | |
| Sheep Hops for Linings, per doz. 5 50 @ 10 50 | |
| California Russett Sheep Linings, per doz. 1 75 @ 5 50 | |
| Best Jodot Calf Boot Legs, per pair. 5 25 | |
| Good French Calf Boot Legs, per pair. 4 50 @ 5 00 | |
| French Calf Boot Legs, per pair. 4 00 | |
| French Kins, lb. 25 @ 30 | |
| Fair Bridle Leather, per doz. 48 00 @ 72 00 | |
| Skirting Leather, lb. 34 @ 37½ | |
| Welt Leather, per doz. 30 00 @ 50 00 | |
| Buff Leather, lb. foot 17 @ 21 | |
| Wax Side Leather, lb. foot 18 @ 24 | |

GOOD HINTS ABOUT ADVERTISING!

Be Careful of your Seed! Sow it in Good Ground!

If you have goods to sell to farmers, it will pay you better to advertise in a farming paper, read and preserved by 10,000 intelligent farmers, than in miscellaneous daily or weekly journals, with 20,000 readers, comprising only 1,000 farmers. A mining journal in California with 10,000 readers reaches more miners than any other ten papers in the Union.

Purchasers are more likely to look for information in the advertising columns of a paper devoted to their special interests, than elsewhere, when ready to buy. Some will not read advertisements upon any other occasion.

Weekly journals are read most leisurely and carefully, and at a time when the subscriber is most favorably inclined to examine advertisements. The newspaper most specially representing your particular branch of industry is usually best entitled to your patronage, and the most profitable medium you can employ.

Advertisements appearing in a handsomely printed journal of established good character are more effective and beneficial to permanent dealers than when inserted in a shabby sheet of indifferent reputation.

Advertising in cheap priced mediums (of limited circulation) is like buying goods at retail when you could as well take them at wholesale.

Information imparted to a list of superior and intelligent and active and industrious readers (naturally looked up by the advertiser for information), is seed sown in good soil for the advertiser.

Fame and fortune are gained, nine times in ten, by liberal and judicious advertising.

\$5 to \$20 PER DAY AND NO RISK.—Do you want a situation as salesman at or near home to introduce our new 7 strand White Wire Clothes Lines, to last forever. Don't miss this chance. Sample Free. Address Hudson River Wire Works, 75 William street, N. Y., or 16 Dearborn street, Chicago, Ill. 23v1-12mbp

Fair Samples.

During the Autumn Fair Season it is the purpose of the proprietors to bring the attention of every person engaged in the line of industries represented by this journal, to the personal benefit to be gained by its patronage and regular reading. We are not only determined to print a superior paper, but are bound that people shall know it, see it, and learn its power of self-elevation and practical benefit, by experience.

To accomplish this we have concluded to print (perhaps weekly) during the Fair season, many extra papers as fair sample copies of the Press for gratuitous and judicious circulation amongst the very best class of citizens—i. e., the steady

What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*
The first No. evinces marked editorial ability.... Fills up a vacancy that has been felt in our agricultural department... With its publishers there is no such word as fail.—*Ms. Messenger.*
We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—*San Jose Dem.*
It is a work which no farmer should be without.—*[Eureka Union.]*
An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—*[Stockton Daily Ind.]*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—*[Journal of Alameda.]*
Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*[Eureka Ind.]*

They can, if they will, make it a creditable work. [We will that.] It opens well.
Excellent paper and type—and a first-class agricultural journal. ... Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—*[Vallejo Recorder.]*
We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—*[Arizona Miner.]*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—*[Idaho Statesman.]*
Just the kind needed on this coast, and merits an extended circulation.—*[Red Bluff Independent.]*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed. ... It has already attained to a large circulation. ... Is running over with entertaining and instructive reading matter, and embellished with numerous engravings. The heading is beautiful and appropriate.—*[Pajaronian.]*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to combine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press*. If the first number is to be taken as an earnest of what will follow, each week, we can advise to all interested in agricultural pursuits, subscribe.—*[Vallejo Chronicle.]*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—*[Eureka, S. F.]*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—*[Yolo Mail.]*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—\$4 a year; or a club of 10 or more, \$3. Sample copies sent on receipt of a postage stamp.—*[Alpine Miner.]*

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—*[Democrat, Downieville.]*

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—*[Alpine Chronicle.]*

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—*[Christian Advocate, S. F.]*

It will represent the agricultural interests of California and the Pacific Slope. ... With so much ability as to command a wide circulation and influence.—*[Helen, (M. T.) Gaz.]*

Will be found worthy the patronage of the people of this State.—*[Argus, Snelling.]*

We heartily welcome the new publication. The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—*[Inyo Independent.]*

From a CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a taking picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

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1871.

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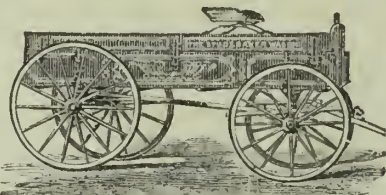
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Persons desiring information may address either of the following:

J. K. DOAK, President.
T. K. HOOK, Treasurer.
H. T. COMPTON, Secretary.

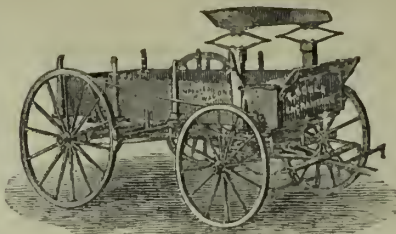
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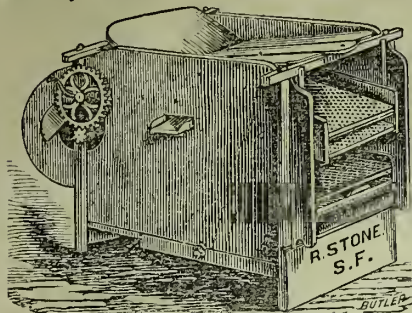
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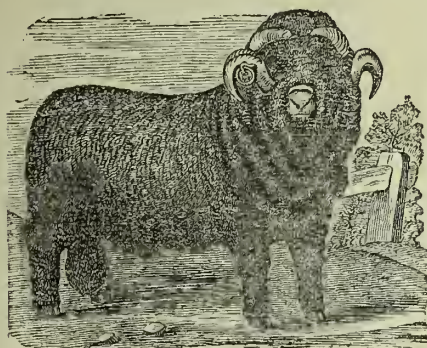
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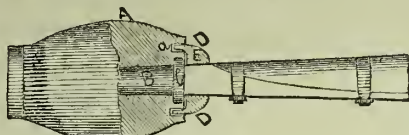


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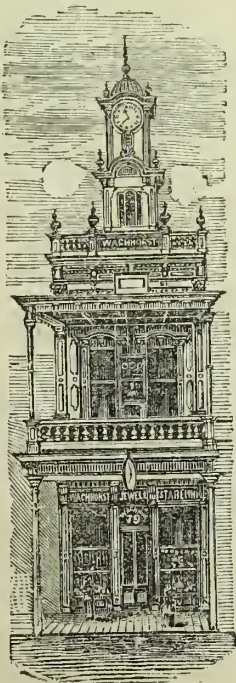
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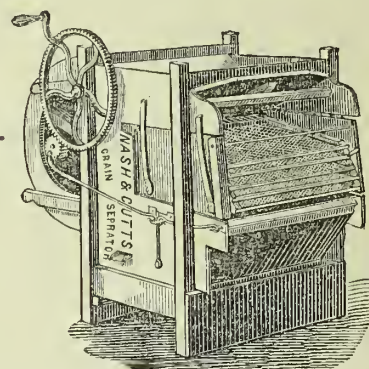
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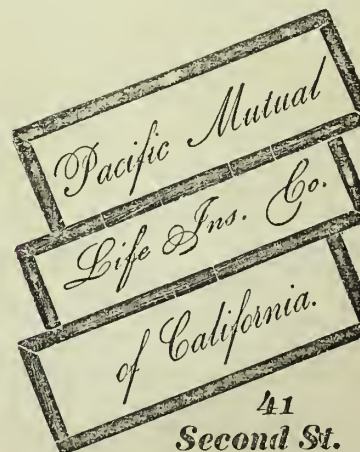
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The HON. T. G. PHELPS has consented to deliver the Annual Address. The Opening Address will be delivered by the President.

By order of the Board. CHAS. F. REED, President. ROBT. BECK, Recording Secretary. au26-4w

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PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 2, 1871.

[Number 9.]

THE WHITE PRINCE.

We give herewith a portrait of the celebrated Percheron horse, White Prince, imported into Ohio, from France, in July, 1870. He was purchased in November following by Mr. W. C. Myer, of Ashland Mills, Oregon, and shipped in company with one full blood, and two three-quarter blood Percheron mares, by rail to Chico, in this State, from whence he travelled to Ashland Mills.

The White Prince is a light dapple gray, five years old the coming spring, and weighed, when shipped from Ohio, 1,680 pounds. He has large, broad, fleet limbs, good disposition, pleasing countenance and fine style, and possesses the square, compact, solid form, with the good action of the Percheron race.

The small cut represents the White Prince and the full-blood Percheron mare, which accompanied him to Oregon, and her filly foal. This picture is said to be a good representation of the family.

The mare was bred in Ohio from imported Percheron stock, and has been awarded three premiums at State Fairs in Ohio, (as often as she could compete) as the best brood mare in the State.

The filly weighed 431 pounds when 2½ months old, and presents the square, compact form peculiar to his race.

A lengthy article, by owner of White Prince, will be found on another page in reference to the color of the true Percheron horse; also explaining how and for what reasons the color has been varied.

NATIONAL SWINE EXPOSITION.—A great National Swine Exposition is to be held at Dexter Park, Chicago, September 19th to the 21st, under the auspices of the Illinois Swine Breeders' Association. It is expected that there will be a large attendance on the occasion, and a very extensive show of animals. Assurances have been given that nearly every prominent breeder in the Northwest will be represented. The magnitude of the hog market of the United States, annually, is at once a sufficient answer as to the utility of such an exhibition.

QUICK GROWTH.—We have received from Mr. Josiah Pool, Old River, Solano county, through Messrs. Brocas and Perkins, some fine specimens of both sweet and Irish potatoes. The sweet will weigh a pound apiece. The peculiarity attending them is the quickness of their growth. They were planted on the 20th of July, in the tule, and have just been dug,—a single tuber having reached a pound in weight in

year, and our informant states that only a few years since he sailed over the identical place in a boat at high tide. This goes to prove that thousands of acres of the tule land on the Sacramento and San Joaquin rivers, and on the Petaluma, Napa, Suisun and other creeks, are all available for agricultural purposes. The soil is unusually rich, from the decomposition of the luxuriant vegetable matter; and, with a little

GOPHER EXTERMINATION.

A general meeting of farmers was to have been held in Merced county, on Saturday last, to devise means for the destruction of squirrels, gophers, and other pests, infesting the country. The Snelling *Argus* very correctly remarks that this is an important move, and that all who cultivate the soil should give their aid and countenance to it to the fullest extent. The damage done by such vermin annually is very great, amounting to a large percentage of the products of the farms.

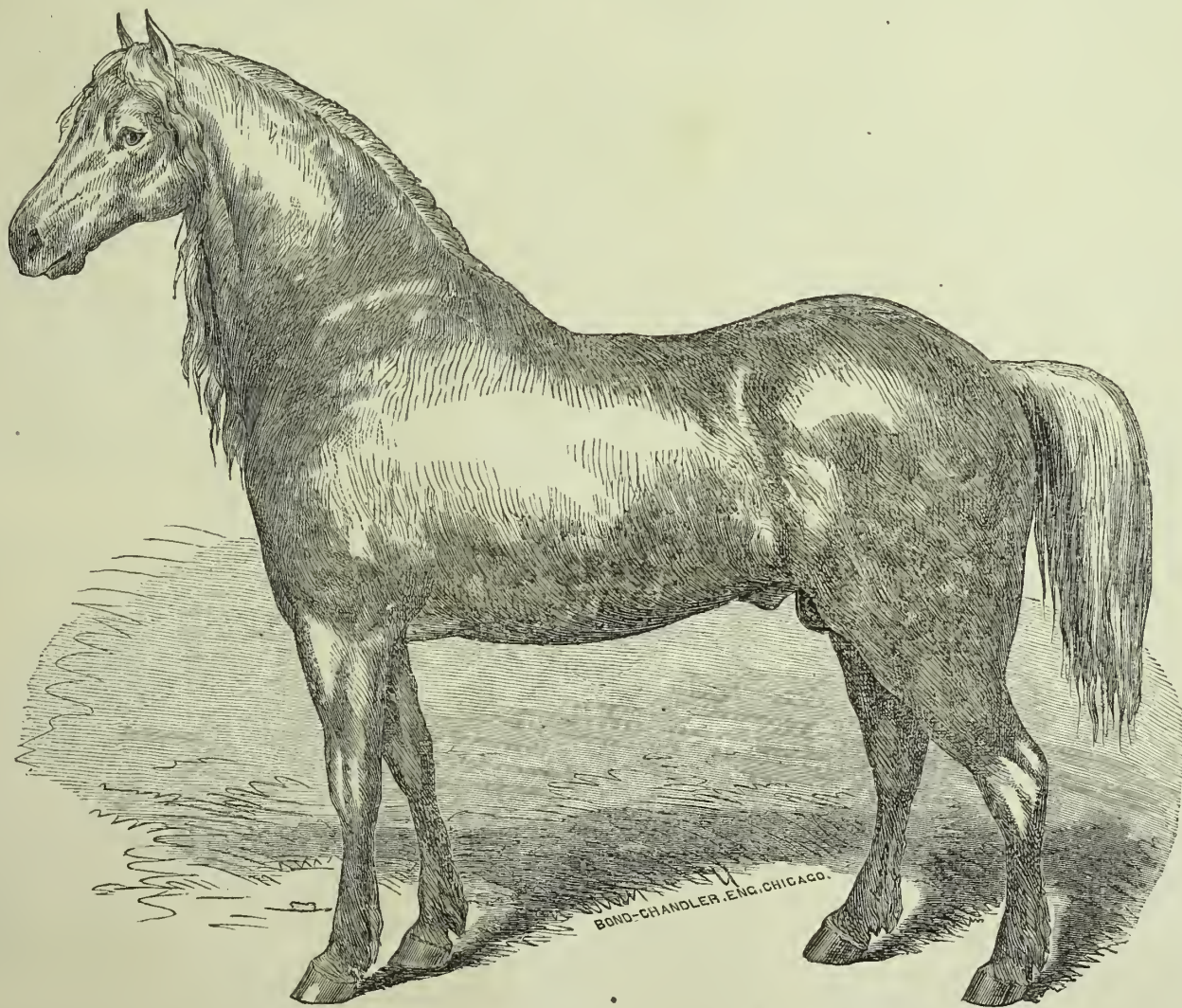
This question came up at a late meeting of the Santa Clara Farmers' Club, on which occasion a farmer stated, as his belief, that gophers and squirrels destroyed one-fifth of the crops annually in that part of the State. Poison—such as strychnine and phosphorus—has been used in large quantities, and legislation had been tried; but so far no very sensible reduction had been made in their numbers; in fact, they appear to be decidedly on the increase. The difficulty lies in the lack of uniform efforts in the matter. If we could effect a general action, say through an entire county, by legislative enactment or otherwise, there is no doubt but that the vermin could be so

nearly destroyed as to be kept pretty well under control.

It was stated by one gentleman before the Santa Clara Club that he had known of 81 squirrels being killed in one hole.

It has been fully shown that several of the various poisons employed are effective. Mr. Ware said that he had cleared them out of a 20-acre lot by poison, and greatly reduced them on an entire tract, and he believed that an act should be passed by the next Legislature requiring all land owners to do their part in the work of extermination, as it was next to useless for only a part of a neighborhood to make the attempt while others adjoining refused to unite in the work.

AMERICAN INSTITUTE EXHIBITION.—The fortieth annual exhibition of the American Institute, at New York, commences on the 7th of November, and promises to be one of unusual interest.

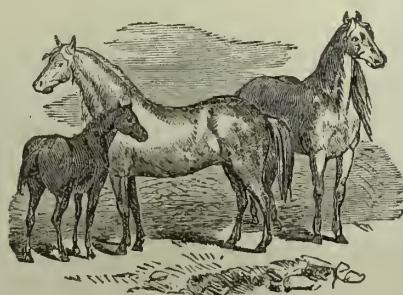


THE WHITE PRINCE—An Imported Percheron Belonging to W. C. Myer, Ashland Mills, Oregon.

about five weeks! The Irish potatoes, also grown on tule land, were planted on the 4th of February, and dug on July 15th; re-

care and attention, many fine farms could be made from this now useless land.

COTTON IN YOLO.—The Woodland Democrat says that the Railroad company planted, last spring, about two acres of cotton, as an experiment on the unclaimed tule land above Knight's Landing. The seed was the Sea Island variety and imported. It was supposed to be somewhat imperfect, as it did not germinate as evenly and quickly as was expected. However, a tolerably good stand was produced and about 1½ of the two acres looks very promising. It is about three feet high. The growth of the stock is very rapid. Persons familiar with cotton growing pronounce the prospects very flattering, and believe this soil to be admirably adapted to the growth of this staple; although the experiment has not been a fair one either in planting or after cultivation.



WHITE PRINCE, FILLY AND FOAL.

planted on July 23d; and the new potatoes which we received were dug up on the 28th ult., from those replanted. This farm is on reclaimed land which was wild last

SCIENTIFIC PROGRESS.

The Influence of Coffee and Cocoa.

M. Rabuteau gave an interesting account at a late meeting of the Academy of Sciences in Paris, on the influence of coffee and cocoa on alimentation. Two dogs—we condense from *Comptes Rendus*—were taken, as nearly as possible identical in size and condition, one was fed every day with 20 grammes of bread, 10 grammes of fresh butter, and 10 grammes of sugar; the other with 20 grammes of cocoa, 10 grammes of sugar, and an infusion of 20 grammes of roasted coffee. This last ration it is observed contained less solid matter by weight, than the preceding. The first dog grew very thin in a short time, and died in twenty-nine days, showing all the symptoms of an insufficient nourishment. The other continued healthy, though he grew thin, but not so much as the first dog.

The experimenter having been called away to duty at the fortifications just after the first dog died, he was unable to feed the second as he had purposed, and the animal not receiving any nourishment died at the end of four days.

M. Rabuteau thinks that coffee should not be roasted in a covered vessel, as is generally done in large establishments, and in manufactories of ground coffee. He says the roasting should be so accomplished that the coffee shall contain all the caffeine, the true active principle of the berry, and should not contain caffeine, an essential oil developed in roasting. This latter principle the author asserts is one which excites and causes the injurious effects so often found to arise from the use of coffee. Its formation may be to a considerable extent prevented by roasting the coffee in a current of heated air.

A discussion on the subject followed, in which it was questioned whether coffee and cocoa were to be considered as aliments, M. Chevreul expressing his belief that personal idiosyncrasies had much to do with it. He also remarks on the difficulty of settling the question for want of a standard by which to be guided, as for instance the percentage of nitrogen, which, however is fallacious.

Experimental Researches on the Nutritive Properties of Cocoa.

At the same meeting M. Ch. Gazeau reported upon some experimenting on the nutritive properties of cocoa, which he had made himself. He found that the use of cocoa increased the amount of urea voided, from 11 to 16 per cent. or more, the mean temperature of the body was increased 0.32°, the arterial pulsations from 11 to 22, and the number of respirations from 4 to 6. In the use of cocoa the author believes that the vital powers are really drawn upon so that the benefits derived from its use are more apparent than real.

A discussion on this subject followed, in which the extensive use of the cocoa by South American Indians was referred to.

EFFECTS OF DIFFERENTLY COLORED RAYS ON DEVELOPMENT.—Some interesting experiments have recently been made, from which it has been ascertained that certain colored rays of light are particularly favorable to the development, in organic infusion, of infusorial life, while other rays are more favorable for the production of microscopic forms of vegetable life. Thus, M. Pouchet says, *white* light is the best fitted for obtaining the former result, after which comes the *red* ray, then the *violet*, the *blue*, and finally the *green* ray. On the contrary, for the development of vegetable "proto-organisms," the *green* ray is the best fitted; next to this the *blue* and *violet* rays; and, lastly, the *white* light; the *red* ray hindering the development of these organisms.

SORBY ON TINTS OF AUTUMNAL FOLIAGE. In an elaborate article by Mr. Sorby upon the varied tints of autumnal foliage, in a recent number of the *Quarterly Journal of Science*, he comes to the conclusion that the production of the fine tints of autumn is an evidence of diminished vital powers of the plants. This generalization also agrees with the fact that the unhealthy branches of a tree turn yellow, while the rest remain green, the subsequent development of more sombre tints being evidence of more complete death.

TRANSIT OF VENUS.—There will be a transit of Venus across the sun, in 1874, and astronomers are already busy in making arrangements for its careful examination, as by it the distance of the sun from the earth is determined. The last transit of Venus was in 1769.

Meteoric Stones.

M. St. Mennier, who has made the subject quite a study, gives the following distinguishing characteristics as found in different meteorites:—Some specimens consist of a brecciated mass, like what he calls Lucite from the meteorite of Luce; others consist of a brownish porous mass, called Limerickite, from a meteor which fell near Limerick; and others still present a blackish mass, called by M. St. M., tadjerite. The two former have been found blended together, in which cases we think they must have originally belonged to a planet where these two minerals occur in juxtaposition. He has produced the black rock called tadjerite artificially, by heating a breccia composed of annatite and charbonite to fusion. Hence he concludes that tadjerite has been a rock of that description, which has been subjected to metamorphic action. Tadjerite often occurs as a black covering to the brecciated masses, which he thinks is due to fusion, probably from friction, [in its passage through the atmosphere] and by its depth shows the intensity of the heat to which it has been subjected.

While most meteors appear to have been simply fused and cooled; others show the result of a more complicated geological action. He considers that the Widmannstetter lines on meteoric iron indicate that it is an eruptive mass.

The same author infers, from the analogy of meteorites, that the solidification of the terrestrial globe proceeded from the surface to the center.

DIRECT CONDENSATION OF WATERY VAPOR.—Professor Forel, of Lausanne, after long-continued observation, has determined the quantity of water passing the Rhone below the Lake of Geneva, and finds that to furnish this amount it would require an atmospheric precipitation in the above, of nearly 45 inches. The actual precipitation, however, amounts to but 27½ inches; and the question arises, therefore, whence comes the surplus water? Professor Dufour finds its origin in the direct condensation of the atmospheric vapor on the ice, the cold rocks, and the snow-fields of the Alps. The following experiment may serve to elucidate the principle involved: A vessel containing a cooling mixture of 672 grams in weight, on being exposed for an hour in the calm, open air, increased five grams in weight from the vapor condensed on its exterior. Direct measurements at suitable points would be interesting for the purpose of ascertaining approximately what quantity of water is thus actually carried to the river.

SUDDEN AND SPONTANEOUS OPACITY OF GAS CONTAINED IN A BALLOON.—Observations having frequently been made by aeronauts, says *Les Mondes*, that when the gas is allowed to escape from balloons when in an elevated position, it appears like a whitish smoke, whence aeronauts coined the expression of "the balloon smoking the pipe." M. de Fonvielle explains this as the result of cold which arises from the increase in volume of the balloon in a rarefied atmosphere. The vapor of water in the gas is thus condensed, and assumes the whitish smoke-like appearance.

ANOTHER PLANET.—Prof. Watson of the observatory of the Michigan University, Ann Arbor, says:—"I have discovered in the constellation of Capricorn a planet hitherto unknown. It shines like a star of tenth magnitude. It is situated in the right ascension, three hundred and twenty degrees, sixteen minutes, and in the declination, twelve degrees thirty minutes south. It is moving south and west."

COMBINED RUBBER AND COPPER WIRE FOR PIPE COUPLINGS.—Mr. Fred. Kible, of Baltimore, Md., has, says the *Scientific American*, patented an improved joint for water pipes, steam pipes and chests around bolts, etc., whether the joint be round, square, or any other shape. It consists in a rubber plate and copper wire for forming the joint. The plate made of rubber or other suitable material is cut to fit between the faces that form the joint. On this is placed a copper wire bent to fit the hole around which the joint is to be made. The wire should be one size larger than the thickness of the rubber. This construction permits the wire to be arranged as desired so as to avoid flaws in the plates. If desired two rubber plates can be used with the copper wire placed between.

MECHANICAL PROGRESS.

Sawing and Seasoning Timber.

"Every builder and lumber dealer has observed that when the heart of a tree is near the center of a hewed or sawed beam, post or sill, the timber is apt to crack badly from the heart outward while the process of seasoning is going on. The decay of the timber is immensely quickened by these cracks, which admit water, and harbor whole swarms of vermin. On the other hand, the timber will never crack while seasoning, if the tree has been sawed through the heart. It often happens a tree from which sills or plates for a barn are to be made is of sufficient size for two or even four pieces, if the logs are sawed through the middle. It will pay handsomely, unless the circumstances are very unfavorable, the road extremely rough and the distance great, to haul a log of such size to the saw mill, where it can be sawed through the heart into two or more pieces as the case may be—thus not only saving largely in amount of timber obtained from the log, but greatly improving its seasoning and working qualities. The difficulty of hauling and sawing a log of unusual length may be overcome by the exercise of a little engineering skill. Supposing a long stick of timber to have been hewed one foot square, it can readily be chained under the axle tree of a lumber wagon and lashing the free ends of the reaches to the timber. The sawing at the mill in the desired manner may be easily accomplished, even though the stick be twice the length of the saw mill carriage, by allowing one end to project beyond the head block."—*Leffel's News*.

SPLIT VS. SAWED PLANK.—At an early period, the trunks of trees were split into planks with wedges, and these were afterwards reduced by the operation of the adze. Before the middle of the sixteenth century, all the plank in Norway was hewn in this manner, and trees from which seven or eight boards could now be formed, then only produced two. This simple but wasteful mode has not in some parts of the north, been even yet entirely exploded; and it must be admitted that it is attended with some advantages which the use of the saw does not afford. The work is more expeditiously performed, and split timber is far stronger than that which has been sawn, for the fissure follows the grain of the wood, and leaves it undivided; whereas the saw, by cutting along a specific line, divides the fibres, and thus weakens its cohesion and solidity. Besides, as the fibres retain their natural position, they are easier bent, and this is an advantage in many kinds of work which more than compensate for the timber being sometimes warped.—*Ec.*

A REVOLVING SAFE.—Among the articles exhibited in the industrial department of the London International Exhibition just concluded, is something new in the shape of a revolving safe, for which the exhibitor claims the usual requisites of thorough security against thieves and fires. Unlike all other safes this is made in a circular shape, and, when locked and placed in a position either against a wall, or built into it, the door is turned into the wall, the back facing the spectator. To open the safe, a lock is opened in a strong iron box, on which the safe rests. This moves a spring, which enables the operator, by means of a small hand key, to bring the door of the safe round to the front, and causes a bell to ring a loud alarm. The door being opened by means of a key, another door presents itself, which is opened by being moved round to the back of the safe. The invention has been much admired and favorably considered.

A FRICTIONLESS PEN.—Sir Wm. Thomson's siphon recorder is the great telegraph novelty of the day. The reading of the signals is effected by means of a siphon, or capillary glass tube, about two inches long, the shorter end of which dips into a dish of ink, while the larger hangs down, in front of a paper strip moved forward by clockwork. The miniature glass siphon is connected, by a very fine aluminum wire, with a coil suspended between the poles of an electro-magnet, and is moved backwards and forwards as it is deflected to the right or the left. To persuade a camel to get through the eye of a needle would, under ordinary circumstances, not be a more difficult feat than to get ink through the capillary tube under ordinary pressure. But it is actually ejected in a tiny stream

from the lower end of the siphon, by the simple and ingenious expedient of keeping the ink electrified to a high tension. It is a well known fact that, when any liquid is electrified, its particles repelling each other, it is enabled to flow through the finest orifice; and this fact, judiciously taken advantage of by Sir William Thomson, has enabled him to produce a frictionless pen point. The electrification of the ink in the reservoir is done by a rotating electrophorus or replenisher, kept in motion by an electro-magnetic machine.

DRILLING WITH SAND.—It is said that a jet of quartz sand blown through a pipe by steam, at 30 lbs. pressure to the square inch, will make a hole in a solid block of corundum an inch and a half deep and of the same diameter, in less than 25 minutes. Corundum is little, if at all, inferior in hardness, to the diamond; in comparison, even blued steel is soft, and granito absolutely pulpy. This remarkable mechanical discovery is due to M. B. C. Tilghman, an engineer of Philadelphia, who turns upon corundum a pipe which discharges sifted sand, mixed with a furious squirting of steam, and the fine shower of particles thus flung cuts a hole equal to the diameter of the jet. The same effect is produced in anything else submitted to the process.

So great a force of steam is not necessary for finer work, such as grinding or engraving glass. For this purpose, a blast of air may be employed by means of a rotary fan. The tube is fed with sifted sand, which the air-blast takes up and whirls against the glass. It will thus completely demolish a surface moving past at the rate of five inches in the minute, and the spent sand and sand-dust can be perpetually returned and re-employed. Moreover, by covering parts of the glass with any semi-elastic material, such as paper, lace, caoutchouc, or oil-paint, designs of any sort may be engraved. The particles which eat off the hard glass or stone beat in vain upon the interposed medium, and so curious is this resistance that even a green fern leaf may be used, and the sand-shower will consume all but the parts thus covered, leaving a delicate pattern of the frond. The film of bichromated gelatine used for photographic negatives, may also be thus utilized for producing an engraving on glass or steel; and by a very simple arrangement the jet can be rendered movable, and handled with an absolutely artistic freedom.

SILICATE OF POTASSA IN STRENGTHENING FOSSIL SKELETONS.—A very judicious application of the silicate of potassa has been lately made at the Museum of Natural History of Paris, in repairing many fossil skeletons which had been discolored and broken by the shells bursting in this palace of science.

The solutions have been first used diluted to about 30° Beaumé, and afterwards of a higher degree of concentration. The adherence of the broken or separated pieces is brought together by applying with a brush, some of the solution of silicate of potassa on the parts to be joined, then they are left to dry, and the joint is hardly visible; and the joined part is far stronger than the remainder of the bone. Very delicate and porous anatomical pieces, as skeletons of birds, insects, etc., can be dipped repeatedly in more diluted solutions, and thus be rendered very hard and tenacious.

EXTRACTING OIL FROM OIL-CAKE.—A process apparently designed for extracting the residue of oil from cold pressed oil-cake has lately been brought out in Liverpool, England. The cakes from which the oil is to be extracted are first reduced to pulp in a steam-jacketed kettle, by the solvent action of dry heat, in combination or not, with an acidulated vapor. The pulp is then placed in bags, and is subjected to a graduated pressure. The pulp is then filled into bags and pressed. As soon as the first or virgin oil has flowed, the pressure and heat are increased, and a small amount of free steam is allowed to act on the edges of the bags.—*Artisan*.

NEW, INGENIOUS AND USEFUL.—Messrs. Osgood and Co., the eminent publishing firm of Boston, have had a machine built expressly for them, which at one operation trims the main sheet and supplement of their illustrated newspaper, *Every Saturday*, pastes the leaves securely together, and folds them at the rate of 1,800 copies per hour. This ingenious machine, just invented, will mark an era in the publication of large illustrated newspapers.

CORRESPONDENCE.

Letter from Mendocino County.

EDS. PRESS:—Thinking that a few items from Mendocino county might be of interest to your many readers, I send you a few extracts from my note book:—Passing over a rough country from Sonoma county, the traveler reaches Booneville, at the head of Anderson Valley, a small village of some twenty-five inhabitants, with hotel, store, blacksmith shop, etc. The country as you pass down the valley, opens out into very pretty farm and stock land, with here and there a beautiful grove of pine and fir.

After traveling some thirty miles further, through mountains and redwood forests, we arrive at Navarra ridge, where we have a splendid view of the Pacific ocean, and after contemplating the same for a while, move a little further and halt at Mr. Moore's to refresh ourselves and get a "square meal."

Beneath the ridge, and upon the Navarra river, is one of the finest sawmills in the State. Hence some six miles down the coast brings us to Cuffie's Cove, a small town upon the sea shore, from which place we receive a large portion of the railroad ties and tan bark, which reaches San Francisco.

Some six miles further, through a fertile country and in close proximity to the coast, we stop to take a look at Bridgeport, where Messrs. Giberson and Turner, have just completed one of the finest shoots in Mendocino county, constructed at a cost of \$7,000. The shoot measures 700 feet in length, main span of bridge 106 feet. The trussel work of the whole structure is well secured to the adjacent rocks. There are three moorings in the rock, the respective weights of which are 1,500, 2,000 and 3,000 lbs. They have some 1,500 cords of tan bark ready for shipment.

Mr. G. has upon his farm, near by, 110 acres of potatoes, which will yield 100 sacks per acre; also 30 acres of oats which stand seven feet high, and will yield 100 bushels per acre.

Some dozen miles further brings us to Point Arenas, a place of some 100 inhabitants, with mechanics, shops, stores, etc., and surrounded by a fine farming country, with good prospect of a fine crop of potatoes of first quality.

A Singular Vehicle.

Among the items worthy of notice in the way of improvement at Point Arena, is the Naham Pleasure Chariot, mentioned in the first chapter of the book of Naham. This vehicle was invented by J. G. Kirkpatrick, and is now under process of erection. Its structure seems to be such as to produce an undulating motion in a great variety of forms, as the passengers may desire, or as the conductor may elect.

This motion is produced by the eccentric form of the wheel, the hub being placed at a given distance from the center of the rim of the wheel, and is changed to an infinite variety of motion by beautifully constructed brakes, four in number, the wheels being always under the control of the conductor. It is anticipated that this variety of undulating motion, keeping time with the music, which will be played by the same force that draws the chariot, will be extremely delightful as well as conducive to health. It is the intention of the parties getting up this craft to have it on exhibition at the annual State Fair to be held at Sacramento City, this season.

J. D

Letter From Corinne.

BY OUR TRAVELING CORRESPONDENT.

I was shown through the garden of Mr. H. House which contains some very fine small pear and peach trees. The dwarf trees from Illinois, of the same varieties, were set out last spring, and are doing finely. Those planted last year have grown fully three feet, while the small ones which he secured in the Territory have all died.

The soil is of a sandy character, but fine fruit can be, and is already, raised by means of irrigation. Peaches, raised at Brigham City, were sold here last year for 50 cents per bushel. Mr. House pointed out some trees 2½ feet high, which were raised from seed planted in April, 1871. He has a few hundred of these trees

and also some grape vines which are doing remarkably well.

Imported plum trees, set out a little over a year ago, have a goodly quantity of fruit, showing that the ground is rich and strong. I cannot account for the death of the trees brought here from other parts of the Territory, while those from Illinois, Indiana and other Mississippi States thrive well. This garden is on the banks of Bear River; I hear that a company is being formed to dig a canal and tap the river about 60 miles distant, for the purpose of irrigation.

Strawberries, gooseberries, currants and other kinds of fruit are plenty here this year. I am told that the gooseberries transplanted from the mountains and canons attain a much larger growth than the English berry and are abundant in this section. As soon as the much-talked-of irrigating ditch, above alluded to, is completed the land in this section will be considerably enhanced in value. The soil is of the same character for many miles in the vicinity of this place, and it is thought that upwards of 250,000 acres may be used for agricultural purposes.

Corinne, at present, is dull in aspect, but it appears to me only a question of time as to its improvement. It is conveniently situated on Bear River, which flows into Salt Lake, and the steamer lands here receiving and carrying away ores and other freights, as well as tourists who are "doing" the lake and its surroundings. A branch office of the

Utah and California Lumber Co.

Is located here. They are dealers in all kinds of clear seasoned sugar pine, red and yellow pine and finishing lumber. Rough lumber is sold here at \$35 per M. The doors and windows on hand came from San Francisco, and were made by John Hall & Sons. Some were made, however, in Chico, Cal. This company has also a branch of their business at Lake Point, on Great Salt Lake.

Three hundred "Shuttler" and many of the celebrated "Studebaker" wagons have been sold here for the Montana trade and other points.

Large quantities of goods go from here daily to Montana, giving employment to an army of teamsters. I learn that more freight has been sent this year than ever before; it comes both from the East and West. The steamer came in last evening loaded with ore on its way to the works at Reno.

W. H. M.

August 2d, 1871.

Boiler Explosions.—Prevention Better than Cure.

EDITORS PRESS:—As the subject of boiler explosions is being much agitated at the present time, and a great deal is being said about the competence of engineers, I think that if a law was passed with the following for its substance, it would go a great way toward relieving the minds of those who travel or risk their lives with steam in any of its applications.

I would have the law formed, making it a crime, punishable by a heavy fine, for any person to employ a man as engineer who cannot show a proper certificate or other proof of his ability to take proper care of the boiler entrusted to his charge, and should also make it as much an offense for any person to hire out for such a position, unless he could comply with the same requirements. If this was only carried out I think we should hear less often of explosions, and should, indirectly, encourage competency in the engineering profession. As it is, a person who has faithfully served his time and studied diligently in order to fit himself for the position of a practical engineer, has little chance of finding employment at remunerative rates, when people who are too mean to pay a decent price can hire a "shovel engineer" or mere machinists to do the work for what an engineer would be unwilling to give his services for.

I would commend the above to the attention of our prospective law-makers, and think such a bill would find many advocates in all classes of society.

H. M. CALDWELL.

THE power of growing plants is almost incredible. The roots of a tree will upset a massive stone wall against which they have grown, instead of giving way and striking into the yielding soil. A mushroom will lift a paving-stone rather than grow out of its natural course.

SANTA CRUZ FARMERS' CLUB.

The club met on Saturday, Aug 15th, President Mattison in the chair.

Farm Hands.

Mr. Connant presented a lotter which he had received from Vale & Warner, San Francisco, stating that they were procuring farm hands from Europe and requesting the co-operation of the Club.

Mr. Mattison.—This is an important subject, and I think it would be well for the Club to make it the subject of discussion at this meeting.

Mr. Locke.—Many men ask, "What is the necessity of importing laborers, when we have already over one thousand men out of employment, and constantly seeking for work?"

There is trouble some where. The solution of the question is this: We cannot find men who are willing to work on our farms.

Mr. Sawin.—The Labor Exchange, advertised to fill orders, and send men fit to work on farms.

Mr. Locke.—Most of these are young Americans, who state that they understand farming, but when set at work we find that they do not understand the first rudiments. I once hired a young man that was from Missouri, he told me that he had been brought up on a farm. I set him to weeding in corn after the cultivator. I was surprised to find that he knew nothing about the work. I had another young man from New Jersey, and set him to work in my garden to hoe some corn, which had been planted late, and told him to pull up the suckers. He did not know the difference between suckers and the main stalk; and pulled up more of the latter, than of the former.

All this goes to show that these young men do not understand farming. They are not trained to it; their parents do not undertake to teach them, they are kept at school until they reach their maturity, and thereby acquire a dislike to out-door labor.

With Germans, Scotchmen and Englishmen, the case is different. They are brought up on farms, and are obliged to serve a regular apprenticeship.

Mr. Mattison.—The young men who work on our farms here, are poor hands. It is not so much for the lack of knowledge as the lack of integrity. They shirk the work unless constantly watched, and do not care for the interests of their employer.

Mr. Wood.—I have hired a number of men, and think that Western men are ahead of any others. I find it difficult to obtain men who understand taking care of a team.

Suckering Corn.

I differ from Mr Locke about suckering corn. Pulling off the suckers in the usual way is apt to injure the corn.

Mr. Locke.—I planted two rows of sweet corn, and to experiment, suckered one row and left the other. On each kernel of the row left, were five or six suckers. I should like to understand the reason of it?

Mr. Wood.—I always prefer to cut off the suckers with a knife, so as not to injure the main stalk.

Mr. Freckley.—In what way does pulling off the suckers affect the corn?

Mr. Wood.—By cutting them off, the stubs remain, and the moisture is not affected, and there is no danger of the main stalk drying up.

Mr. Locke.—I would like to know, Mr. Wood's experience, whether he has cut the suckers and left them, acre for acre?

Mr. Wood.—Not acre for acre. Where the suckers were cut instead of being pulled, the ears were larger and fuller. This stands to reason. Where the suckers are pulled, the root is often injured.

Grafting Fruit Trees.

Mr. Locke.—In grafting fruit, trees, I have cut off part of the main branch. Next year the trees did well. Where the tops are cut off, it is apt to ruin the tree, as it stops the flow of the sap.

Mr. Mattison.—I cut off one tree in that way, and the following year, obtained four boxes of pippins from it.

Mr. Locke.—That may be the case in some instances and shows that theory on the subject is at fault. Old grafters will tell you that by the common mode of grafting, the growth is thrown into the old limbs. I follow cleft grafting, mostly myself. I have trees growing finely to-day, which I grafted in that way last Spring.

Mr. Freckley.—In grafting, it is safer to leave the limbs a little longer.

Mr. Mattison.—I have a new orchard, where I cut the whole head off—nearly every graft took.

Mr. Freckley.—I cut off the tops of forty or fifty trees last spring. They did not seem to throw out well; there appeared to be too much sap.

Mr. Locke.—I have lost trees where the whole top was cut off. The sap seemed to turn back into the main trunk of the tree. In order to prevent injury to the tree, I take common paper and cut it into strips six inches wide; and, commencing at the bottom wrap it round the tree, till near the top.

Back to the Original Subject.

Mr. Mattison.—It seems to me, gentlemen, that we are deviating somewhat from the subject under consideration.

Mr. Sawin.—Two able bodied men came to my house the other day and begged for something to eat. They did not seem willing to do any kind of work to pay for it. I do not think that such kind of men ought to be encouraged.

Mr. Mattison.—I have had Italians work for me, but they are not worth much except as milkers. The Germans are ready and willing; but they do not understand taking care of horses.

Mr. Locke.—On my ranch I had a Swiss working for me. He was one of the best milkers I ever had; but knew nothing about horses.

Mr. Wood.—I take care of my own horses.

Mr. Feeley.—I prefer a good German.

Mr. Wood.—Thoroughly Western men from Pennsylvania to Illinois make the best workmen. I had an Indian work for me—he was always willing, and proved one of the best men I ever had.

The letter Mr. Connant had received was placed on file, and the Secretary requested to communicate with Vale & Warner as to their terms.

The Club adjourned, to meet on the second Saturday of August.

New and Easy Process for Making Butter.

Mr. Richard Hoskins, of Dutch Flat, says he has the best churning process yet invented. He read some time since our items about getting butter by burying the cream a few feet under ground for a short time. In trying an experiment, he lowered the cream down a 20-foot well and kept it there four hours. It was taken up and put in the churn and his wife on trying it could not move the dasher, so he came to the conclusion that the butter had come without churning. On examination such proved to be the case. He says that since then he has continued the process and now gets the butter without the trouble of churning,—previously, however, scalding the milk and getting clotted cream. This is an experiment so inexpensive and easily made that all those interested will do well to try it.

CARRYING A JACK-KNIFE SIXTY YEARS.—We may term him the most successful alumnus of Yale who at the meeting of his fellows, Commencement week, exhibited a jack-knife which he had carried for sixty years. This was the Rev. Dr. Eastman. His recipe for keeping a jack-knife for sixty years—is never to lay it down, but always return it to your pocket when you are done with it.—*Congregationalist*.

We should suppose that the Rev. Doctor had not only always returned his jack-knife to his pocket, but had also always kept it there; for we can hardly imagine a knife that with an ordinary amount of service, would last for sixty years.

A SCHOOL OF PAINTING AND SCULPTURE. At University College, London, a wing is being built for schools of painting and sculpture, intended for both male and female artists.

MACHINERY.—Agricultural implements, etc., to the value of over \$27,000,000 was exported from England last year—more than half of the amount resulting from the sale of steam engines.

A TUNNEL is to be dug under Lake Erie, a mile and a half from shore for the purpose of supplying the city of Cleveland, Ohio, with pure water, after the manner of Chicago.

W. H. DALL'S Alaska Expedition left this city on Monday last for the Aleutian Islands on the schooner Humboldt.

Musical Dancing Toy for Pianos.

The accompanying engraving is a perspective view of a new scientific toy invented by G. L. Wild & Bro., of Washington, D. C. Its operation depends entirely on the vibration derived from the sounding-board of a piano, to which it can be attached, and is a simple and very amusing little toy. It is principally a light, round table with a fancy gilt or lace trimming around the upper edge, with a screw clamp for attaching it to the sounding-board of the piano, which can easily be done without injuring the instrument. In reference to the cut, *A* is the table, *B* the stand, *C* and *D* forming the clamp. When it is to be applied, the stand is screwed to the bottom of the table, and the lower end is adjusted by turning the screw, *D*, of the clamp, which fastens it to the sounding-board, *E E*. Then a number of small figures or images are placed on the table, and, on performing on the instrument, the figures appear charmed into life and motion by the music. The effect is very pretty, and no complicated mechanism is required to produce it. The figures are made of wood, and dressed to represent a variety of characters and nationalities; the arms, legs and heads are movable, and they are supported on stiff bristles or steel wire springs. The vibration of the sounding-board is communicated through the stand to the table, where it is spread out in increased force, causing the figures, through their elastic supports, to spring about in a most comical way. It is evident that a great deal of fun may be elicited therefrom; and there is something so natural and life-like in the grotesque groupings and comical motions of the figures, that it not only amuses the little ones, but grown people as well. For particulars as to price, patent rights, agencies, etc., see advertisement in another column.

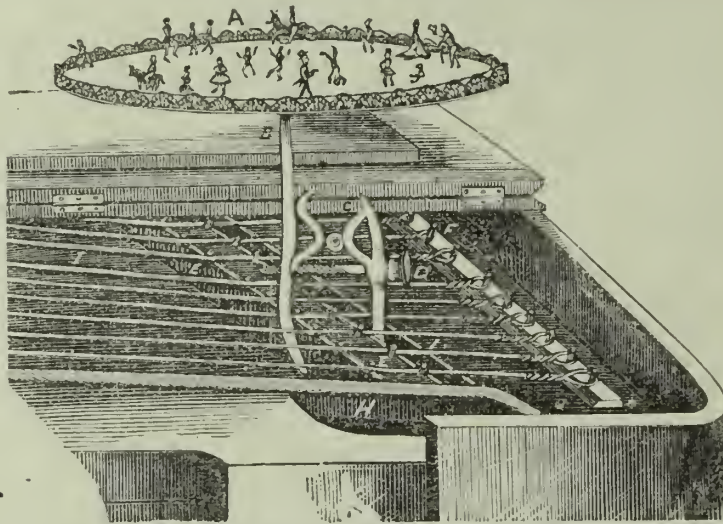
OVER EATING.—P. J. Shafter, of Olema, Marin county, asks if there is any remedy for an animal whose stomach becomes distended by eating an undue quantity of wheat and then drinking freely of water. Mr. S. has just lost a valuable two-year-old colt, which lifted the latch to the store room of his hen house, and ate his fill of wheat. All efforts at averting death were unsuccessful.

We know of no remedy. The paunch or first stomach of ruminating animals sometimes becomes so severely distended by gas, that the ordinary dosing (with turpentine and raw linseed oil or other fluids) will not afford relief, in which case puncture may be successfully resorted to, which, however, must be skillfully done by the use of the proper surgical instruments, such as are used in tapping for the dropsy. When thus punctured the gas will rush out with much force and give immediate relief. The wound needs no other after-dressing than a daily application of cold water. A mild laxative should be given immediately after the operation, and the animal should have access for several days to only such food as would be easy of digestion.

NEW PATENT FIRE HOSE AND TRIAL.—The city authorities of Marysville, recently purchased 2,000 feet of patent combination steam fire hose from the Gutta Percha Rubber Manufacturing Company of New York, which company has an agency in this city, in charge of Messrs. Taylor & Sullivan. Nineteen hundred feet of this hose was recently subjected to a very severe trial at Marysville, when a pressure of 370 pounds failed to find a weak spot. The hose when subjected to this great pressure, resembled more the appearance of an iron pipe than a rubber combination. The test was highly satisfactory to the city authorities and the large number of firemen and citizens who witnessed it.

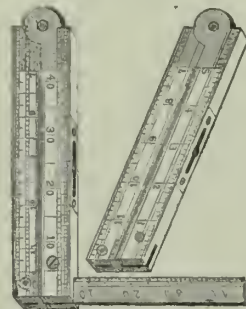
Stephens' Patent Combination Rule.

The accompanying cut represents this useful and handy little tool which will be found convenient for people of almost any trade or profession. It is made of box wood and bound very heavily with brass, and looks as if it would last a lifetime. It has only one joint, and being a foot rule, is six inches long when closed. The cut represents it in three positions. First—a spirit level; second—a try-square and plumb; and third—a clinometer or slope level, which is marked on the steel blade that folds into the rule itself. This is graduated, noting the degrees of the angles that are formed by opening the legs of the rule—the blade sliding through the groove in the end of the leg. When extended to 45°, of course the angle is 45°, the blade has fallen 27½° from a right



WILD'S MUSICAL DANCING TOY FOR PIANOS.

angle or square. The glass, covering the spirit level, can be removed by means of screws so as to be adjusted in case of irregularity. This little tool embraces in itself a carpenter's rule, spirit level, square, plumb, bevel, indicator, brace scale, protractor, a right-angled triangle, and with a straight edge can be used as a parallel rule. It is the convenience of tools like this that lightens labor and spares endless calculation and measure-



STEPHENS' COMBINATION RULE.

ment. Inventors can often do more good to humanity by perfecting some useful little invention like this, than by racking their brains over some mechanical problem which interests only a few. Every farmer as well as mechanic, should be supplied with one of these useful little instruments. Information concerning this beautiful contrivance can be had by addressing Stephens & Co., Riverton, Connecticut.

WILD BEES.—By wild bees, of course, says the Monterey Democrat, we mean the swarms which have left the parent hives of domesticated insects to seek homes in the wilderness. It is amazing how they are propagating themselves, causing one to look back with wonder to the ideas which prevailed when bees were first imported to the State. They have, in their progress as pioneers, a formidable enemy in the shape of "Mr. Grizzly" who is robbing the bees wherever it is possible for him to reach them. He climbs lofty trees, and is sure to effect an entrance to the sweet store if the wood that surrounds it be rotten or soft.

Brown's Vapor Burner.

From the number and various styles of vapor burners offered to the public, each one of which is pronounced unsurpassed and unsurpassable, one would naturally think that the time was not far distant when novelties would cease in this line of invention. But like all other articles of utility, the vapor burner has steadily received valuable additions and improvements, which have caused it to become a great household favorite.

The latest improvement in these burners with which we are acquainted, is the one invented by C. B. Brown, of Placerville, El Dorado county, this State, and recently patented through the agency of this office, an illustration of which is given below, attached to a vapor lamp.

In this class of lamps, the gas which is

burned is generated in the burner tube, from the oil which flows downward from the oil vessel. This tube is usually packed with cotton, which conveys the oil by capillary attraction to the burner. Instead of cotton, Mr. Brown uses asbestos, a filmy, fibrous mineral which is inde-



BROWN'S VAPOR BURNER.

structible by heat, and which serves the purpose of raising the oil equally as well as cotton. In the upper end of the tube is an inverted conical plug, the upper end of which is hollow, and small holes in the plug serve for the escape of the gas to the reservoir, from which it passes through holes in the upper cap to be burned. A screw passes down through the top of the cap which covers the upper end of the tube, by which the supply of gas to the flame can be regulated. This burner gives a beautiful, steady light of great brilliancy, and will be appreciated by persons employing this class of lamps.

This burner is on exhibition at the Pavilion. All communications concerning it should be addressed to C. B. Brown, Placerville, Cal.

SHEEP FOR ALASKA.—It is proposed to send some sheep to Alaska with the view of acclimatizing them in our northern possession.

The Grape Crop and its Utilization.

Although we have had an abundant supply of table grapes for several weeks past, they came mostly from the districts distinguished for the early maturity of their fruits; and wine-making has not yet commenced anywhere. In a few vineyards the presses will begin next week but generally they will wait till the middle of September. The work will be finished this year earlier than ever before.

The opinion prevails that by delaying the grape harvest until the grapes were over ripe, much had been lost in both quantity and quality. The berries have been partially dried on the stems and the strength of the wine has been too great for table use. Several experiments indicate that the quantity of juice is greatest about the time when the wine will yield nine or ten per cent. of spirit; whereas in many cases the yield is from twelve to fifteen per cent. The longer the grapes are left on the vine, after ten per cent. of spirit is reached, the less the amount of juice, the greater the per cent. of spirit, and the slower and more difficult the fermentation.

The crop is a very large one, and many owners of vineyards do not know what to do with their wine grapes. In some valleys there is no sale for them; nor will the price be high for them anywhere. The mere gathering and pressing is not very expensive, but there is difficulty in getting casks, and much complaint about their high price. The obtainable oak staves, suitable for making new casks, are imported from the Mississippi Valley, and are, it is said, in the hands of a few persons, who demand exorbitant profits. Our coast produces no good stave timber, except in Lake county, where it is practically inaccessible.

If the grapes could be distilled with profit, a large part of the produce of the vineyard would be converted into brandy, requiring only one-fifth as much expenditure for casks and freight,—two items which are among the chief drawbacks of this important industry. But the burdens placed on the distillation of brandy are almost equal to prohibition, and the large distilleries in Napa, in the midst of a valley adapted by various circumstances to take the lead in the production of brandy, will stand idle under the prohibitory influence of ignorant or foolish legislation. In other districts, where grapes cannot be sold so conveniently as in Napa, some brandy will be made; but not one-third as much as there would be if the industry had been properly fostered by wise governmental regulations.

The farther we go from San Francisco, the greater the relative amount of distillation, the poorer the vineyardists, and the greater the cost of transportation to market, the more important to save expense in casks, and to compress the product of the harvest into the smallest possible space. The southern coast, and the Sierra Nevada will for those reasons take the lead in brandy. The Transcript says Nevada county will produce four thousand gallons of brandy, and enough fruit and grapes to yield four times as much more will go to waste. The county has five fruit distilleries now, and two distilleries connected with breweries are to be moved to vineyards. In El Dorado county, according to the Transcript, there are from forty to fifty distilleries for the production of brandy.—*Alla*.

ARRIVED.—Prof. W. P. Blake, M. E., recently arrived from the East, having been absent from the Pacific Coast since 1867, a portion of which time he has spent in Washington, in the employ of the U. S. Government compiling the reports of the Paris Exposition. It will be remembered that the Professor represented California as State Commissioner at the World's Fair.

ONE DAY'S RECEIPTS OF FRUIT.—The receipt of fruit in this city for a single day of last week—Thursday—is reported by Mr. Lusk, of the Pacific Fruit Market, as follows: 18,000 boxes and 350 baskets of peaches, 2,000 boxes of plums, 2,200 boxes of Bartlett, and 800 of cooking pears; 1,700 boxes of apples, 800 boxes grapes, native and foreign, of all varieties; 50 boxes figs and 25 of crab apples. This is an enormous receipt for such a city as San Francisco—amounting to about five pounds for each man, woman and child in the city!

AGRICULTURAL NOTES.

CALIFORNIA.

CONTRA COSTA—PEACHES.—The Antioch *Ledger*, of August 20th, says: Jas. Hornbeck, of Lone Tree Valley, brought to town last week a sample of two varieties of peaches and one of almonds, raised by him in that valley, where the water is sixty feet from the surface, and no irrigation but that of the plow. The peaches were of fair size and good quality, and the almonds, though of the hard-shell kind, were of good taste. The orchard is young,—only in its third year, and the two last, while so dry, have not prevented his trees from making a fair growth, and the size and juiciness of the fruit this season has exceeded all calculation. He has no fear of profitable crops of fruits and grapes all over these plains, if properly cultivated and protected.

CROPS IN MONTEREY.—The Salinas *Standard*, of August the 20th, says: Reports are constantly coming into our office of good yields of grain, from various parts of the county. Frank Blake, who lives between Salinas City and Castroville, raised on nineteen acres, seventy-seven bushels of barley to the acre. If that is not a good crop, considering the partial failure, and the universal cry that there would not be enough grain raised, to seed the ground the next year, then we will say that we know no more about farming than Horace Greeley. Mr. Roland, who also lives near Castroville, raised on eight acres 480 sacks, weighing 106 pounds to the sack. How's that for high?

COLUSA COUNTY—GRAIN.—The Colusa *Sun*, of August 26th, says: James Keith, of Red Bluff, has been threshing for some weeks at the farm of J. W. B. Montgomery, of this county. Mr. Montgomery reports the following work done by Mr. Keith, which we take in its average to exceed anything ever done in this county: In eight days Mr. Keith threshed 16,000 bushels of grain, all wheat, except 2,400 bushels of barley. On Saturday last, he threshed 2,400 bushels, finished by 6 o'clock p. m. The work was well done; no slight or neglect in any part of it.

The shipments of grain from this section have been very brisk the past two weeks. Large quantities by way of the railroad; and Perkins, of Oroville, has been receiving immense supplies from the Dayton district.

SONOMA COUNTY.—The Santa Rosa *Democrat*, of August 26th, says: E. T. Farmer & Co. are building at the railroad depot a brick warehouse 42x120 feet. The railroad company are engaged in laying a switch that will connect the railroad with the warehouse. The building will be opened for storage in about two weeks.

The first large shipment of wheat was made Wednesday, from Faught's Station, by Wise & Goldfish, and consisted of seven cars, carrying 100 tons, the crop of G. S. Johnson, of Mark West Creek.

The Guillecos Ranch Company sold their crop of wheat, 500 tons, to Wise & Goldfish, of Santa Rosa, on Thursday last, at a round figure; street rumor says, \$210.

BUTTE COUNTY.—The Marysville *Appeal*, of Aug. 26th says the gardens along the slough are being flooded with water, and some of them are completely ruined. Where they extend back from the slough, on land lower than the present gauge of the water, even with a high bank intervening, they are flooded by seepage. R. Riley has half an acre or more of corn standing in water several inches deep. The water is seepage and very clear. A large tract of garden land has been submerged, and the products entirely destroyed. This causes considerable growling among the gardeners, who do not, as a natural consequence, believe much in the Yuba dam.

OREGON.

THE WHEAT CROP.—A letter from Portland to the Willamette *Farmer*, of Aug. 19th, says:—The wheat crop appears to be fully up to the average of former crops. The fall wheat is splendid, so far as our observation is concerned, which constitutes a continuation of the argument in favor of summer fallowing and fall planting. The recent cool weather is helping out much of the spring sowing.

A FEW FAILURES AND THEIR CAUSES.—The same writer says:—It is interesting to go around, as I have to some extent, and hear the varying experiences of different farmers on their spring sowing. The spring wheat of one man has failed because it was too large when the first "hot spell" came along; that of another has failed because the wheat was just in the milk when the second "hot spell" came along; while a third man has good spring wheat because

his was small (just coming up) when the first hot weather set in.

There is no doubt a good deal of truth in these statements, but is there not a probable remedy for the two causes of failure above? Is it probable that the hot weather we have had this season would have hurt any of the spring wheat if it had been put in right? Would not deep plowing and thorough pulverization, have constituted such a reservoir of moisture and food for the growing wheat as would have successfully pushed it through to a perfect development of the head and grain, despite the warm weather.

THE HARVEST.—The Willamette *Farmer* Aug. 19th says: Farmers are now in the midst of harvesting. The fall wheat turned out well, on many farms averaging forty bushels to the acre. The spring sown wheat and oats will not show as good yield as ordinarily.

LINN COUNTY ANNUAL FAIR.—The annual fair of the Linn County Agricultural Association will be held this year at Albany, commencing September 26, and continuing five days. Many improvements will be made at the ground. Among other things the amphitheatre will be lengthened sixty feet, making the building one hundred and twenty feet long, which will afford seats for an immense number of people. An addition to the Pavilion on the North front 16x24 feet, is also to be made. Various other arrangements for the convenience of exhibitors of agricultural machinery, stock etc., will be completed soon, and everything that will conduce to the pleasure and profit of visitors and exhibitors in attendance on the sixth annual fair will be attended to in proper season and in good shape, by the proper officers of the Association.

POLK COUNTY.—The *Republican* says the yield of grain this harvest will be much better than anticipated. Straw is short, but the heads are better filled and prospects are good for an abundant harvest.

FROM GOOSE LAKE.—Mr. Jas. A. Jones, formerly a resident of this place, has just returned, bringing his family, from the Goose Lake country. Mr. Jones does not seem to have a very exalted opinion of that region, there being very few places where vegetables or crops of any kind can be raised. The whole country is at this time being devastated by crickets. He proposes to look still further at the country east of the Cascade range, but says unless he finds a country vastly superior to any he has seen thus far, he will return to this county and remain.—*Eugene City Guard*.

SIXTEEN Leicester sheep, imported by William Watson, of Umatilla, from New Zealand, brought \$3,200.

Stock owners at Ochoco, Oregon, have been able to save but little hay owing to the dry season.

Grading is in progress for the foundation of the Agricultural Works at Salem.

WASHINGTON.

CLARKE COUNTY.—The Willamette *Farmer* hears favorable reports of the grain crops from all parts of Clarke county. They would undoubtedly be a little better, had it not been for the excessively hot weather. But it has not materially affected the grain. Fruits of all kinds promise well and we shall undoubtedly have an abundant harvest.

From all parts of the Territory reports indicate a good yield.

Farmers around Puget sound are busy harvesting. Early sown wheat yields well.

Col. Crocker is forming a company to develop the coal mine on Puyallup creek, W. T.

WALLA WALLA.—The *Statesman*, of the 12th, has the following:

The Walla Walla Annual Fair will commence September 20th and will continue four days.

New wheat is rapidly coming in and finds ready sale.

The *Real Estate Record* of Walla Walla, says of the crops in that valley, that spring wheat will average about 30 bushels, and winter wheat 40 bushels per acre.

HIGH.—At Seattle and other towns down the Sound, butter has sold all summer at forty and fifty cents a pound.

COLORADO.

THE CROPS of Colorado are unusually promising. The Greeley *Tribune* Aug. 25th says that at Hill's ranch, on big Thompson, 12 miles from Greeley, which has been in cultivation six years, they have fairly got to work at farming, the sod being well subdred and the fertilizing influence of the water fully felt. On his ranch, six acres of wheat have been recently threshed, and

the yield was 356 bushels or 58½ bushels per acre. The price of wheat is not now exactly fixed, but flour is selling at \$5.75 per cwt.

COLORADO AS A STOCK COUNTRY.—The *Tribune* says that Colorado is adapted for stock raising. There is good feed in every month in the year. The native grass which looks so worthless to strangers, and gives the plains a desolate appearance on account of its gray color, is exceedingly nutritious. It is the absence of rain which gives it this color, and makes it rich; and which is the reason why the grazing is as good in winter as in summer, for it cures as it stands, and is uninjured by moisture. That is, there is just enough rain fall to make it grow, but not enough to soak and rot it after it is grown. We have, thousands of square miles, on which stock is kept both winter and summer, without other care than of herding. The valley of the Platte, for a distance of 180 miles east of us, occupied by at least 50,000 head, one man alone having 20,000. But there are many ranges still unoccupied, both in the mountains and on the plains, and whoever wishes to engage in the business can find ample opportunity.

This territory is already becoming known in the East as a great wool-growing Territory, and besides the attention paid to the importation of extra good stock, the business of shipping the wool clips East, is assuming considerable importance.

We have estimated the annual revenue which, in a few years, the stock business will bring into Weld county, at \$20,000,000. This pursuit will be a basis upon which other pursuits will be founded; the same as in Pennsylvania, coal and iron builds large towns and cities, and makes money stay at home. A profitable leading pursuit always benefits other classes by the business and industries it supports, and the more profitable it is, the greater it the support it will give.

BEEES IN COLORADO.—Contrary to the general impression bee-keeping is proving a decided success in Colorado.

MONTANA.

Good reports continue to be received of the excellent yield of crops in this territory. The Deer Lodge *Independent* of the 8th inst. says: Farmers are now busy cutting their wheat. The weather is cool and pleasant, rendering harvesting much pleasanter than is common. Oats are maturing rapidly, and promise to yield abundantly. Farmers in all the valleys in the county claim that they never saw more promising crops than is now growing. Montana will produce a surplus of bread-stuffs this year unless the immigration is large, and even then there need be no apprehension of a scarcity of food, as the vegetable crop will be enormous.

THE Montanians says:—We have been familiar with what were always called good crops in the grain-growing States of the West; but in all our experience we have never seen a better crop anywhere, than the one now being harvested in Madison county. The amount harvested will be at least one-half more than that of any previous year.

The same peculiarity is noticed there that has been observed in this State—while the growth of straw is not excessive, the heads are very large and well filled out; the berry is perfect, and the wheat crop is already so far advanced as to be beyond the reach of any casualty.

The vegetable yield is fully up to that of former years in quality, and surpasses it in quantity.

A FAIR ASSOCIATION has been organized for Madison county, which has secured a most eligible location, about one mile from Virginia City for holding annual fairs, the first one of which will commence Oct. 10th, and continue one week.

UTAH, ETC.

FAIR OF SOUTHERN UTAH.—A Fair for Southern Utah will be opened, on the 1st of September, at Salt Lake. If we are not mistaken the Ogden *Junction* says, it will no doubt be a grand affair and exhibit many evidences of the patience, industry, perseverance and skill of the pioneers, who will be honored in the history of the Great West, for the wonderful work they have accomplished under unparalleled difficulties.

A FAIR is also talked of for Weber county.

IDAHO.

IDAHO.—Papers of August 12th, report the following:

The threshing season in Boise Valley is now fairly under way, and the wheat crop is an unusually light yield. It is probably the lightest average crop ever raised in Boise Valley.

A severe frost injured the vegetables in Boise Valley a few days ago.

Opium Culture Successful in Tennessee.

The Nashville *Union* says that opium is being successfully and profitably cultivated by several persons in the neighborhood of Nashville, Tenn., and thinks the State will soon be independent of the foreign supply. The crop of 1870 proved a failure owing to the lateness of the planting. Dr. J. W. Morton, who has greatly interested himself in the business and who is also growing it himself, will realize from this year's crop at the rate of from 50 to 75 pounds per acre, on which there will be a handsome profit. He obtained his seed from Calcutta.

Rev. F. Pitts, also of Nashville, has now been growing opium for three years. He obtained his seed from Smyrna. The seeds first tried did not do so well, and his crops were not a success. His crops have done well this year. He plants on good land, and cultivates much like cotton. One man can readily cultivate four acres, but it requires several to gather the crops; the season for gathering is short, lasting only about two weeks, and occurs about the middle of June. We offer these statements as an encouragement of our California growers and, with the *Union*, hail every man as a benefactor who can teach us to be self-sustaining—can teach us to make use of the riches that a bountiful Providence has bestowed upon us.

POISONED SHEEP.—Mr. Van Valer, of King's river, informs us, says the Visalia *Delta*, that numbers of sheep are being poisoned on the foothill ranges, by eating milkweed, an article of diet from which all animals refrain, except when pressed by hunger or thirst. After indulging in the "weed," they sicken, froth at the mouth, and die in three or four days. He has saved many of them by freely giving salt; but the quantity necessary as a preventative and antidote for large herds is expensive and does not justify the outlay. Would not our stock raisers find it to their advantage to provide feed for their animals to take them over dry seasons. The rapid settlement of the country will soon compel such a course, and the sooner they make preparations therefor the more they will find it to their profit in the end.

A HERMET ON TWITCHEL ISLAND.—The Antioch *Ledger* says that on the northern side of Twitchel Island near the bank of the Sacramento there has lived alone, without neighbor, kith or kin, for four years a man named Russel. Fascinated with the beauty of the spot, this eccentric individual, who by occupation is a trapper, built for himself a convenient house, surrounding it with an orchard, vineyard, ornamental trees, etc., and until recently, he was like Alexander Selkirk, "monarch of all he surveyed." When the tax was levied for the construction of a levee around the island he paid his apportionment on two hundred acres which he had purchased of the State, but requested that his home should not be inclosed, desiring the benefit of the river's overflow. Mr. Russel has engaged extensively in bee raising and annually ships large quantities of honey to San Francisco, which he finds a profitable business.

ARSENIC SPRING.—A number of men employed at the Cement Hill mine, near Nevada, became mysteriously sick, says the Nevada *Transcript* of the 18th inst., showing symptoms of having taken poison. They had been drinking freely from a spring of clear cold water, near the mine, and with one or two exceptions, all who drank of the water became sick. This induced Mr. Stranahan, the Superintendent of the mine, to have some of the water of the spring analyzed, and it was found to be strongly impregnated with arsenic. It is said one gallon of the water contains sufficient arsenic to poison half a dozen men.

A NEW POTATO INSECT.—Olive-green bugs, about as large as a grain of flax seed, have completely ruined several fields of potatoes in Petaluma Valley. They appeared suddenly, in great numbers, and in a day or two ate the vines to such an extent that they could not live. There is a demand for information about the best means of preventing their ravages, says the *Alta*.

THE HORSE.

THE TRUE NORMAN OR PERCHERON HORSE—HIS COLOR, ETC.

EDITORS RURAL PRESS:—Will you permit me again to reply to Mr. Wilsey on the Percheron, or Norman horse? Referring to my article of May 13th, Mr. Wilsey says, "Mr. Myer there states, at some length, that I have made false statements in regard to the stock of my horse." I was not aware that a simple endeavor to show that a man was mistaken, was to charge him with making a false statement.

In regard to the pedigree of his horse, my desire was to give his own history, and my original manuscript, now before me, reads "young Rawley was sired by Rollin imported, etc.," without the conjunction and between the words Rollin and imported; meaning that Rollin, and not Rawley was imported, and was a dapple brown. This language, as printed, was susceptible of misconstruction, whether in copying, I so wrote it, or whether the printer supplies the conjunction, I cannot say.

In Mr. Wilsey's first article he does not say where Rollin was imported from. In this last he tells from whence he came and gives Young Rawley's pedigree in full. From his first article, I reasoned that his horse could not be more than a three-quarters blood. In the last he acknowledges my position to be true; for he says that Rawley's "grand-dam was a full blooded, Sherman Morgan mare." I did not know that the Morgans claimed to have originated from the Percheron stock, and unless this be so, (which he will not maintain), his horse cannot be more than a three-quarters blood.

Now for the color. That they have dark colored horses in Perche and Normandy I will not deny; but that the gray is, and has been, for many years the true type of the horses for whose qualities he is sought to be imported into this and other countries. I must mention, that some parties in France have advocated a change of color in the last few years, is also true; and Mr. Du Huys so states the case, and waives his own preferences, in favor of the clamor of the people for a change of fashion in color. Mr. Wilsey quotes from Mr. Du Huys, but only quotes so much as to make it appear that the change was made, and that it (the change of color), came from Perche. Mr. Du Huys, in his report to the French government, advises, as it was not probable that a good dark colored horse could be found in Perche, that breeders should look to the "Arabs or the good, well chosen Norfolks," for their coloring qualities, and elsewhere tells how, to some extent, the color had been changed by introduction of dark colored mares, from Brittany, with very pernicious results. Here is Mr. Wilsey's quotation, page 43:

"Finally, fashion wishing positively no more gray horses, Percheron will find himself in a tight place if he does not conform to the exactions of the age, and become more stylish and darker colored. Let us occupy ourselves, then, seriously in looking up breeding stock of dark coats. Let us look about us and seek for this in Perche. If you there find, under a dark coat, a Percheron possessing all the qualities and specialties of the race, make haste, take him and color your horses. Sincerely I give you this advice."

Now any one reading the above would suppose the change of color was effected and that too by going to Perche for it. But here is the true quotation: * * * "Finally, fashion wishing, positively, no more gray horses, and the Percheron finding no longer a sufficient employment in the omnibuses, will soon find himself in a tight place if he does not take a fresh start, and make himself acceptable—if he does not conform to the exactions of the age, and become more stylish and darker colored." It is settled, then, that he must put upon his back a less showy covering; but he can only do this on condition that he become, thanks to good crossings, more presentable and have a more stylish air. And really, what is more ridiculous than a vulgar and common beast decked out with the livery of the fancy and private horse!

Let us occupy ourselves, then, seriously, in looking up breeding stock of dark coats; the time to do this appears to me

to have come. [Du Huys' work was written since 1865.—W. C. M.] But where will we go to find them?

Let us look about us and seek for this in Perche. If you there find, under a dark coat, a fine Percheron, possessing all the qualities and specialties of the race, make haste, take him and color your horses. Sincerely I give you this advice. Still as in the present state of things it is rare that the fine and the somber are met with together among the working races, by reason of the horror which has been professed, up to the present moment, for everything not gray, the best expedient would be to color the coat by means of fine, dark skin Arabs, or with good, well-chosen Norfolks, a subject that we will treat upon in the chapter of crossings. As to doing it otherwise, it is not to be thought of, the elements not existing in Perche."

From the above quotations it will appear that Du Huys turned in despair from Perche, and recommended as above stated.

In addition to the above I will refer to page 14 and 15 in Du Huys work; giving a sketch of the Percheron race. He then says: * * * "His color is almost always gray, and is, among the characteristic features, that which first strikes the eye."

Again, page 21, he tells of two Arab stallions, Godolphin and Gallipoli, being in Perche in 1820. * * * "These two valuable stock-getters, both gray, again gave tone and ardor to the Percheron race, and transformed definitely into gray horses the stock of the entire country, which had, it was said, become less uniform, and of all colors."

See pages 40, 41, 42, 52 and 70 in which Du Huys speaks of the color of the Percheron horse, etc.

Mr. Wilsey quotes Herbert to prove that the gray horse is least common in Canada and the black the most common in Normandy. The Norman horse was imported into Canada long previous to the date of the present perfection of the horse of which we write, and Mr. W.'s favorite author, Mr. Herbert, in his hints to horse keepers, page 48, says: * * * Certainly from the state of the English conquest of Canada, no efforts whatever have been made to procure the breed in its purity."

Mr. Herbert in speaking of the introduction of the Percheron, Norman horse into the U. S. on page 51, says that it has been confined * * * "for the most part to a single locality." * * * On page 56, he says they were imported by "Mr. Edward Harris, of Moorestown, N. J." * * * This was in 1839. Herbert's work was printed 1859.

A more lengthy account of which importation, will be found in Touatt on the structure and diseases of the horse, compiled by H. S. Randal.

On page 30 will be found an engraving of "Lionis Phillips." "Bred by Mr. Edward Harris, of Moorestown, N. J. (in 1843) from his pure imported Norman stock. * * * Lionis Phillips an excellent characteristic specimen of the Norman horse, is a dapple gray."

Referring to my having been in Iroquois county, Ill., and not having heard of Rollin, Mr. W. says: "Now it is very singular that he did not hear of Rollin." * * * "I think the reason why Mr. Myer did not hear of Rollin is that he has a strong preference for gray. And he had purchased and his horse was gray, etc."

A better solution of the mystery, Messrs. Editors, is found in the fact that having spent three days with Messrs. Russ & McCourtie, of Iroquois Co., the reputed former owners of Rollin, (and we conversed extensively about the importations and breeding qualities of the Percheron,) I found them the owners of six gray Percherons, all imported. If they ever owned Rollin, they had sold, and have purchased and imported, for their horses were all grays. They had found the pure article. It would be strange indeed if these former owners of Rollin should never so much as have spoken of him to me, if he were a pure Percheron.

These Gentlemen had fully posted themselves, and at great expense had sent an agent to France expressly to purchase Norman horses. This agent was equipped with Du Huys' work, (I am now using the identical copy), and the result of his investigations in the book and in France was the importation of five gray Percherons, all of which with one other purchased in Ohio, I saw at their stables.

I had not purchased when there. But what I saw and learned there in regard to the Percheron horse helped me to decide

just what type of horse I wanted. Having learned that the Messrs. E. Dillow & Co., of Normal, Ill., were the oldest breeders of this stock in the west, I went to see them and they informed me that they had been to France for the express purpose of purchasing Percheron stallions, and that they had brought out, in the spring of 1870, four of the best that could be found—all of which were grays.

As stated before, I saw nineteen and learned of twenty-six other Percheron stallions, making in all 45. They were all grays. During all my search for a pure Percheron, for this coast, and I spared neither time nor means, I never was once referred to a Percheron of any color but gray.

To conclude, I will say that I have no doubt but that Mr. Wilsey has a good horse, and that he is part Norman, (the more the better). We have many dark colored horses here, called Norman, and they are all good horses—the best draft-horses in the country. I have no doubt but their good qualities come mainly from their Norman blood.

And, besides, I have no quarrel with Mr. Wilsey. If his is a Norman, the good qualities he possesses should be a recommendation for mine, possessing the same qualities, only in so much greater degree as he is of pure blood. His horse is a descendant of old Louis Napoleon, whose colts first interested me in the Percheron stock. All I wish is to state the facts in the case.

W. C. MYER.

Ashland, Oregon, Aug. 4th, 1871.

FARM HINTS.

When to Sell Farm Products.

In nine cases out of ten, as soon as they are ready for the market.

The aggregate loss by holding is at least ten times the aggregate gain, taking the experience of any hundred farmers to gether.

Some of the Reasons.

The grain. In the natural order of things, the supply is equal to demand. The exceptions are when war takes from the producing class, and adds to the consuming class, which, in addition to the waste and expense of transportation, inevitably augments the demand while decreasing the production, and of course the price; or when a failure of some crop in some section places the supply below the needs of that section, and other and more or less remote districts are under the necessity of making up the deficiency. But both of these causes are exceptional.

Then as to potatoes. They are generally less in the fall than in the spring, but the larger price in spring rarely if ever nets as much as the smaller price of October. The shrinkage in six months is rarely less than twenty-five per cent. under the most favorable circumstances, and is likely to be much greater.

Take wool. Generally the clip is bought up in July and August. If not sold then it must be held till the next year, and although there is no shrinkage, if properly kept, yet there is some trouble, the interest of the money; and the possibility of even a less price which the advance in a very large majority of cases never covers; and thus in every department of the farm.

The principle that should underlie this department of farm operations is; raise the best, when the crop is ready for market, if offered a fair price, let it go.

HARVEST DRINKS.—The following six harvest drinks are recommended as among those which cheer but do not inebriate: 1. Buttermilk. 2. A pint of molasses to a gallon of water. 3. A lemon to half a gallon of water, and a teaspoonful of molasses, or as much sugar. 4. Vinegar, sugar, and water are substitutes, but vinegar is not a natural acid, contains free alcohol, hence is not as safe or healthful. 5. A thin gruel made of corn or oats, is strengthening. 6. A pint of grapes, currants, or garden berries to a half gallon of water is agreeable.

GRAIN PRODUCT.—The United States produces more grain, in proportion to the population, than any country in the world. According to the census of 1870, wheat was found to be produced at the rate of 38.3 bushels to each person. By the census of 1850, the United States produced 36.3 bushels for each person then in the country. Roumania, one of the Danubian principalities, produces 25 bushels to each person, being the second in the ratio of production. European Russia stands third, producing 23.1 bushel to each person.

Live Cattle Weighed By Measure.

The only instrument necessary is a measure with feet and inch marks upon it. The girth is the circumference of the animal just behind the shoulder blades. The length is the distance from the shoulder blades. The superficial feet are obtained by multiplying the girth and length. The following table contains the rule to ascertain the weight of the animal:

If less than a foot in girth, multiplying superficial feet by eight.

If less than three and more than one, multiply superficial feet by eleven.

If less than five and more than three, multiply superficial feet by sixteen.

If less than seven and more than five, multiply superficial feet by twenty-five.

If less than nine and more than seven, multiply superficial feet by thirty-three.

If less than eleven and more than nine, multiply superficial feet by forty-two.

Example.—Suppose a pig to measure in girth two feet, and length one foot and nine inches; there would be three and a half feet, which, multiplied by eleven, gives thirty-eight and a half pounds as the weight of the animal when dressed. In this way, the weight of the quarters can be substantially ascertained during life.

HOW THE LEAVES OF THE GRAPEVINE EFFECT THE RIPENING OF FRUIT.—A practical grape grower in his letter to the *Country Gentleman*, says that he observed that when the leaves of the vines were scant, the fruit did not ripen well, while in another part, where the foliage was thick, the clusters of fruit were larger, and ripened well. Where a Concord vine was closely pruned, yet an abundance of leaves retained, the fruit ripened at the proper time, but where the fruit was unusually heavy and close, it did not mature rapidly. Hence he forms the general conclusion that an over crop is tardy in ripening. The cure for this is *thinning*. It hastens maturity, increases the quality and size of the fruit, favors the wood growth, and the set of fruit for the year following. The same rule will apply to all standard fruits as well as the grape.

EARLY CUT HAY.—A correspondent of the *Willamette Farmer* says: "I noticed an article in your paper upon early cut hay, that suits my idea exactly. Having cut and fed out some twenty to twenty-five tons of hay a year, for eleven years, I find that hay cut very green, and properly cured, not allowing the rain to fall upon it or the sun to bleach it, is worth fully double that which is cut too ripe. Green cut hay will shrink more in weight than riper cut, but if buyers understood the difference in value between green cut and properly cured hay, and that which is too ripe, they would pay so much more for the green that you would very soon see a different article in the market."

THINNING GRAPES.—As to the thinning of grapes, if your vine is able to perfect ten pounds of fruit, it is better to have this amount in twenty clusters than in forty. If ten pounds is the capacity of your vine, the fruit will be better if twenty bunches make this amount than if you take forty to do it. We do not give proper attention to making quality in our grapes. Over-bearing is as destructive of quality as it is of maturing.

It is a good plan to go about the orchard once or twice a week and remove any specimens of fruit that have been stung by insects; it should not, however, be thrown upon the ground, where the larve within can come to maturity, but should be either given to hogs or otherwise effectually destroyed.

A FIRE PROOF FENCE can be made by following these directions: "Make a wash of one part fine sand, and one part wood ashes, well sifted, and three parts lime ground up with oil, and mix them well together. Apply this to the fence with a brush—the first coat thin, the second thick. This adheres to the boards or planks so strongly as to resist either an iron tool or fire, and is, besides, impenetrable by water."

THE SOUTH CAROLINA PHOSPHATES.—Fifteen companies, with an aggregate capital of over \$2,000,000, are now engaged in manufacturing fertilizers from the Charleston, S. C., phosphates. It is being shipped to England at the rate of 1,000 tons per day, and is largely used in restoring the "worn-out lands" of the Southern States.

It is said that a tablespoonful of alum is an excellent remedy for founder in horses.

USEFUL INFORMATION.

CONDENSED MILK.—All the public hospitals and charitable institutions of New York city are now supplied with condensed milk by the Am. Cond. Milk Co. The amount thus supplied reaches a monthly value of about \$3,000. A uniform quality is required according to a fixed standard established and ascertained by assay. Every 100 quarts of condensed milk represents 430 quarts of good milk direct from the cow.

The process of condensing is very simple. The milk is first strained, then heated to 145° F. in a water bath, again strained and then condensed in a copper vacuum pan in which the temperature marks from 105° to 113° F. The pan receives 425 gallons at a charge, and the condensation requires 2h. 50m. The milk is supplied daily as is the case with the ordinary mode of supply. By the condensation a large cost is saved in transportation while a uniform quality is more readily secured, and any variation from the fixed standard more readily detected.

PHOSPHATES IN RUSSIA.—An important discovery of phosphates has been made near St Petersburg. The bed resembles that in South Carolina, but is less in extent. This discovery affords another evidence that immense stores of fertilizing minerals have been laid up in the laboratories of nature, against the time when the wants of man will demand a larger yield from the earth than can be obtained by even the most economic use of the fertilizers already in the soil, or which can be added from the annual produce of crops.

FEEDING GOLD-FISH.—It is a capital mistake to suppose that gold-fish in aquaria do not want feeding. They may live some months on what they can gain from the water, but they eventually die of starvation. We know a gentleman who has a large tank full of gold fish, fresh-water sun-fish, etc., who feeds them with calf's liver. It is cut in small pieces, dried in a slow oven, and then pulverized. A very little of this is sprinkled on the water and is greedily consumed by the fish. We have kept fish for years without loss, except by accident, giving them nothing but farina in small quantities, but we have lately discovered that they like corn-meal even better. There is an objection to feeding fish much where they are kept in aquaria with plants, and where the water can not be changed often. The water is apt to become defiled, and, indeed, will become more or less so in spite of all precaution. As we like a clean tank, we have ceased to keep plants, but change the water once a week, washing the tank, shells, pebbles, and sand thoroughly. It is not very much trouble, and it is a great satisfaction to have the glass thoroughly clean and the water clear. We think our fish are much more lively and interesting than those in tanks where the water is not changed so often, and is but poorly furnished with oxygen by the plants. We have made considerable headway in taming our fish. *Hearth and Home.*

GLASS AS A NON-CONDUCTOR OF HEAT.—Glass, says the *Journal of the Telegraph*, is practically a non-conductor of heat as well as of electricity. A practical example of the latter may have been seen in the use of glass as an insulator, a non-conductor, for telegraphic purposes. It is difficult to draw the line of non-conduction, but bad conductors of heat are practically assumed as non-conductors. The question of conduction is purely one of degree. Let two rods of equal size and length—but one of copper and the other of glass—be brought together, and have at their extremity a small weight or marble attached by wax. Apply a spirit-lamp to their ends, touching each other so that the heat be equally applied; in the case of the copper, owing to its being a good conductor, the wax will rapidly melt and let the weight drop; while in the case of the glass, owing to its being a very bad conductor, a very long time must elapse before such a result can happen.

PATCHES may be fastened upon rubber boots and shoes, or cracks and rents closed up, with a cement made by dissolving rubber cut fine, in benzene.

THE ABSORBENT POWERS OF A MELLOW SOIL.—Experiments have shown that a mellow, loamy soil is capable of absorbing in twelve hours, when exposed to a moist atmosphere, an amount of water equal to two per cent. of its weight. If any argument were needed to keep the soil mellow, here is a most powerful one to induce us. For this property possessed by a mellow soil is one that in a dry season is able to give it the power of maturing a crop, when a hardened surface would be unable to do so. A surface that is impenetrable to the atmosphere, of course could not absorb any of the moisture with which the atmosphere is charged. But when rendered free from lumps by repeated plowings and harrowings, each change of temperature causes a circulation of air throughout the mass of soil, which is free then to absorb all the moisture coming in contact with it until it is saturated. So, then, the more the soil is mellowed by cultivation, the less it is injuriously affected by drouth, and the better it is enabled to mature a fair crop in spite of the absence of rain. *Hearth and Home.*

PELICAN OIL.—The people of Louisiana and Mississippi have originated a new source of wealth in capturing and obtaining the oil from the innumerable pelicans which frequent that portion of the Gulf coast. The business of capturing the birds and extracting their oil extends to Bay St. Louis, on the gulf coast, westward following the coast, and thence to the Belize. A fleet of small vessels are employed, and find there remuneration profitable. And the supply of birds is reported to be inexhaustible. Should they give out for any reason where they are now hunted, there are swamps they never desert, and there are the islands above, on which they are often seen in myriads.

A SINGULAR ANT.—Probably the most curious ant in the world is the parasol ant of the West Indies, if the accounts which we receive of its habits are correct. Dr. Forbes Winslow, in his work on Light, referring to Mrs. Somerville as his authority, says that these ants walk in long processions, each one carrying a cut leaf over his head as a parasol, in the sun, and they deposit these in holes ten or twelve feet under ground, apparently with no other object than to form a comfortable nest for a species of white snake which is invariably found coiled up among them on digging up the deposit.

A NEW TELEGRAPH POLE.—A proposed substitute for the present heavy telegraph pole has recently been patented. This new pole is made of galvanized iron tubes, which can be packed one within the other like a telescope, and therefore can be transported to distant points with great ease and at a moderate cost. For a pole standing fifteen feet out of the ground the first section is three inches in diameter, the second section two inches and a half, and the third section one inch and a quarter. The iron pole, with insulating arms, it is stated always insures a perfect current of electricity, and its substitution in place of the unsightly wooden poles is recommended.

HOW TO KNOW AN IMITATION FROM A REAL DIAMOND.—The real diamond, though brilliant, is not transparent. When a diamond is polished, but before it is set, its genuineness may be ascertained by laying it on a newspaper. If the stone hides the letters, it is real; if they shine through and are visible, the "diamond" is paste, rock crystal or other imitation.

PALE SAPPHIRES may be rendered entirely colorless by exposure to intense heat; they thus also acquire great brilliancy and are sometimes passed off as diamonds.

A HEALTHY MAN throws off daily an average of 120 grams of carbon, and 21 of nitrogen, which must be supplied to him, or he will weaken and finally perish.

SEWING machines are driven by steam power in Stewart's dry goods store and other large establishments in New York.

THE bamboo is said to grow at the extraordinary rate of four inches in twenty-four hours.

A TANNERY 100 by 600 feet, to contain 1,200 vats, is being erected at Grand Lake Stream, Maine.

BUTTERFLIES have been found flying at sea, six hundred miles from land.

GOOD HEALTH.

Babies in Bran.

According to the London *Lancet*, a plan has generally been adopted in France of placing babies in bran. An ordinary cradle is filled with common bran, a hair pillow is put in, and then the bran is moved aside with the hands until a hollow is formed the size of the child's body. The infant, divested of everything below the waist, and having a little bodice or cape above that, is placed in the bran and its body completely covered with it, exactly as may be seen at the seaside at the present time, where children play at burying one another in the sand. A light coverlet or counterpane is placed above all, and the baby is in bed for the night. The two great advantages connected with bran are said to be its particular cleanliness and the pleasant and even temperature which it maintains about the infant's body. There seems to be no good reason, says an English paper, why this privilege, if it possesses these advantages, should be confined to the small portion of humanity. Bran might be used instead of bedding in casual wards, common lodging houses, and would be preferable to the dirty beds to be found at seaside lodgings. Perhaps the day is not far distant when the sojourner at the seaside will take his carpet bag, a folding box and a bag of bran, and bid defiance to dirt, fleas and infection.

EXPERIMENTS WITH ONIONS.—J. B. Wolf, M. D. of Washington, lately forwarded to the Farmer's Club, N. Y., the following communication: On shipboard at New Orleans, in the year 1849, in charge of one hundred marines, with cholera among them, I observed that those who ate freely of onions, supposing them to be healthy, were attacked certainly and fatally. Onions and salt cured the bite of a rattlesnake on my son, and are considered specific in all snake bites. I have found four separate witnesses of phenomena connected with small-pox and fevers:

1. Onions in rooms with small-pox rot rapidly.
 2. Blisters rise in them.
 3. They retain and communicate the virus many weeks after the epidemic has subsided.
 4. Applied to the feet of fever patients they rapidly turn black.
 5. They prevent the spread of small-pox in thickly populated tenements by absorbing the virus.
 6. A man with hydrophobia, in his frenzy ate voraciously of them and recovered.
- From all these facts may be deduced:
1. That onions should not be eaten when there is a prevailing epidemic.
 2. That onions sliced and frequently changed are good disinfectants.
 3. That experiments should be made to test of their usefulness. For many years I have opposed vaccination as ordinarily done, and hence hail with satisfaction any means of mitigating the virus of this distemper.

POSTURE OF THE HEAD IN SLEEPING.—It is often a question among people who are unacquainted with anatomy and physiology whether lying with the head exalted, or on a level with the body is the more unwholesome. Most people consulting their own case on this point, argue in favor of that which they prefer. Now although many delight in bolstering up their heads at night, and sleep soundly without injury, yet we declare it to be a dangerous habit. The vessels in which the blood passes from the heart to the head are always lessened in their cavities when the head is resting in bed, higher than the body; therefore, in all diseases attended with fever, the head ought be pretty nearly on a level with the body; and people ought to accustom themselves to sleep thus and avoid the danger.

WARM BATHING.—The warm bath is a grand remedy, and will often prevent the most virulent of diseases. A person who may be in fear of having received infection of any kind, should speedily plunge into a warm bath, suffer perspiration to ensue, and then rub dry, and dress securely to guard against taking cold. If the system has imbibed any infectious matter, it will certainly be removed by this process if it be resorted to before the infection has time to spread over the system; and even if some time has elapsed, the drenching perspiration that may be induced in a hot bath will be pretty sure to remove it. *Family Herald.*

Children Should go to Bed Early.

Many children, instead of being plump and fresh as a peach, are as withered and wrinkled as last year's apples, because they do not sleep enough. Some physicians think that the bones grow only during sleep. This I can not say, certainly, but I do know that those little folks who sit up late at night are usually nervous, weak, small and sickly.

The reason you need more sleep than your parents is, because you have to grow and they do not. They can use up the food they eat in thinking, talking and walking, while you should save some of yours for growing. You ought to sleep a great deal; if you do not, you will in activity consume all you eat, and have none, or not enough, to grow with.

Very few smart children excel, or even equal, other people when they grow up. Why is this? Because their heads, if not their bodies, are kept too busy; so that they cannot sleep, rest, and grow strong in body and brain. Now, when your mother says Susie, or Georgie, or whatever your name may be, it is time to go to bed, do not worry her by begging to sit up "just a little longer."

But hurry off to your chamber, remembering that you have a great deal of sleeping and growing to do to make you a healthy, happy, and useful man or woman. *Etc.*

FOOD MEDICINE.—Dr. Hall relates the case of a man who was cured of biliousness by going without his supper and drinking freely of lemonade. Every morning, says the doctor, this patient rose with wonderful sense of rest and refreshment, and a feeling as though the blood had been literally washed, cleansed and cooled by the lemonade and the fast. His theory is that food will be used as a remedy for many diseases successfully. As an example, he cures cases of spitting blood by the use of salt; epilepsy and yellow fever by watermelon; kidney affections, by celery; poison, olive and sweet oil; erysipelas, pounded cranberries applied to the parts affected; hydrophobia, onions, etc. So the way to keep in good health is really to know what to eat, not what medicine to take.

SALT IN THE HUMAN SYSTEM.—A scientific gentleman in Scotland states that 57 per cent. of the saline matter of the blood consists of common salt, and as this is partly evolved every day through the skin and kidneys, the necessity of continued supplies of it to the healthy body is sufficiently obvious. The bile also contains soda (one of the ingredients of salt), as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt, and neither will the bile be able properly to assist digestion, nor the cartilages to be built up again as they naturally waste. It is better to place salt where stock can have free access to it.

A MAN will die for want of air in five minutes, for want of sleep in ten days, for want of water in a week, for want of food at varying intervals, dependent on constitution, habits of life, and the circumstances of the occasion. Instances have been given where persons have been said to live many weeks without eating a particle of food, but when opportunities have been offered for a fair investigation of the case, it has been invariably found that a weak and wicked fraud has been at the bottom of it.

DEATH FROM MULBERRIES.—Five persons have recently been found dead in Mississippi under mulberry trees. Death in all these cases has been attributed to eating mulberries which have been impregnated by locusts. In the stomach of one colored boy, says the *Woodville Republican*, was found a quantity of mulberry seeds and the locust eggs. Two children in Wilkinson county are also reported to have died from eating plums similarly impregnated.

CARE OF THE HAIR.—Frequent brushing and washing once a week with a teaspoonful of liquid ammonia in a bowlful of warm water, is said to be the best treatment possible for the hair. If any stimulant is required, half an ounce of dry ammonia, rubbed into a pint of olive oil, is the finest dressing to be made, and prevents hair from turning gray, if anything will, and urges its growth.

EATING BEFORE RETIRING.—It is very injurious to eat just before retiring. The desire for it is simply the result of habit or of a morbid craving—and should be at once overcome.



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SAN FRANCISCO:

Saturday, Sept. 2, 1871.

Our Weekly Crop.

One of the most important essentials in the development of any community is the horse-power at command—not for getting over the ground rapidly; but for economizing labor in bringing to the aid of man the very best kind of animal power, always ready, able and willing to do his bidding. We have placed such a power in a prominent position on our farm today, and we point to it with confidence as the best for general use which the world can produce. Passing by some brief matters of interest, we pause for a moment to consider a project for Gopher Extermination, after which we enter our Mechanical and Scientific Library, where we observe several things novel and interesting, and find quite a varied mass of Correspondence awaiting our perusal.

From the library we step directly into an interesting museum where we find a curious display of automaton figures dancing a merry jig to a lively tune upon a piano in a room lighted by one of Brown's New Vapor Burners. We also find here a new Patent Combination Rule by which we measure the Grape Crop of the State and calculate its Utilization. Our usual summary of Agricultural Notes are next displayed, before we pass to a more critical examination of The Horse, which we have just procured, with a view of determining his color, pedigree, etc. Then, gathering up a few Farm Hints and Items of Useful Information, and considering the best means of securing Good Health, we again visit the grounds of the Bay District Agricultural Society to take a look at the fine horses, sheep, etc., which are there exhibited, after which we listen to some sensible talk about Home Manufactures.

We next pay a visit to the Geyser Canon, where we witness some of the most extraordinary Wonders of Nature, and get a sight of the smoking chimneys of her underground laboratories, all of which we find strangely in contact with the Wonders of Art which we soon after find displayed in the magnificent palace of industry on Post street.

Leaving the Pavilion we hasten to enjoy a little respite from the busy scenes abroad, which we are always sure to find within the quiet of the Home Circle. What Came of It, will be found duly recorded.

We next pay a brief visit to the kitchen to take a brief lesson in Domestic Economy, gather up a few Life Thoughts, take a look after the Oregon and Bay District Fairs, read over the market report and say good bye for another week.

GOOD PAPER.—Latterly we have been obliged to use printing paper from this market, the regular supply of paper shipped by ourselves from the East having become prematurely exhausted by the rapid increase of the circulation of the Press. We are now using our own fine paper again.

SALE OF SHEEP.—We understand that Col. Saxe sold seven of his fine blooded stock, last week, on the Fair grounds, to the noted stock men, Miller & Luce, of this city.

Bay District Agricultural Society Fair.

Live Stock Exhibition Continued.

S. B. Emerson, of Mountain View, has on exhibition a black and white bull of the Holstein breed; also a cow of the same stock, color and age. These cattle have a superior reputation as great milkers. Also a Durham cow.

H. W. Seal, of Mayfield, exhibits a Durham bull, Moss Royal No. 2, Red cow, Cowslip, and roan cow, Mild Eyes, each four years old, and a three year old cow, graded, called May Blossom, and three calves.

Peter Saxe, of Sacramento, exhibits seven one year old Durham bulls and three year old Durham heifers, part of a lot of twenty-three head of stock which he has just imported from Kentucky.

The bulls are named respectively Gen. Von Molke, Iron Duke, Orphan Boy, 11th Duke of Saxony, Edward, Victor the 18th and Indian Chief the 16th.

The heifers are named Elizabeth, Luella, Lovely, and Mary Lilly. Mr. Saxe's stock having just been imported does not show as good as it really is; but the wonder is that it looks as well as it does.

This importation will make their mark on the cattle of our State, and we hope such enterprises as this of Mr. Saxe will meet with good encouragement.

J. M. Patterson, of Alameda, exhibits a fine graded cow, May Bird—part Durham.

We give the following from the *Spirit of the Times*:—

Horses.

S. B. Whipple, of San Mateo, shows 3 yearling horse colts by Speculation; they are called Tribulation, Allen and Ethan. Two 2-year old fillies, Ida Whipple and Dot, by Speculation.

The stallion California Dexter, 4 years old, a mare, Lady Blanchard, 6 years old, and a sorrel mare 3 years old, all by Hambletonian.

The stallion Ajax, 6 years old, by Hambletonian, is well known on the turf as a game little trotter.

Three-year-old filly, Fly, by Speculation.

Three-year-old filly, Katie Mills, by Speculation.

The sorrel gelding, Westfield, 6 years old, by Hambletonian, exhibited as a roadster. Also, Harvest Queen, 7 years old, by Rydsick's Hambletonian. Her reputation has been made on the local turf, and she is fondly spoken of as the "honestest trotter in the State, and the prettiest-moving mare in the world."

The stallion Hambletonian, Jr., 5 years old, own brother to Ajax. He has never been on the turf, on account of an accident to his off hind foot, but is entered in the sweepstakes for "best stallion of any age."

The stallion, Speculation, 8 years old, by Rydsick's Hambletonian. He is father of a large family of colts just coming on the turf. He was exhibited with 10 of his colts.

And the blood mare Asheat, 9 years old, dam of Ajax and Hambletonian, Jr. Sired by Rydsick's Hambletonian. She has a sucking filly running by her side, and commends herself at once to the eye of a horseman as an excellent brood mare.

Charles H. Cushing of San Leandro, exhibits a graded mare, Jessie, and sucking colt, by Venture.

Mike Nickerson exhibits a 3-year-old mare, Kate, in the class of "all work."

John Hall, of Alameda, has two fillies and two colts, sired by Woodburn.

John Cumming, of Twelve-Mile Farm, San Mateo, exhibits blood mare Nelly Newby, 10 years old, by Argyle. Filly Lilly Dale, 3 years old, by Antelope. Filly Blink Bonny, 2 years old, by Antelope. Filly Gazelle, 4 years old, by Antelope. Gelding Roebuck, 4 years old, by Antelope. Gelding Knight of St. Patrick, 2 years old, by Antelope. Filly Duchess, yearling, by Antelope.

Imported thoroughbred mare Lady Edgerton, 13 years old, (dam of the three preceding,) and sucking colt Kingstou, by Hercules.

Saddle horse Cariboo 3 years old, graded. Thoroughbred mare (saddle) Bruette, 5 years old, by Rifleman.

A. Wilsey, of Petaluma, exhibits an interesting family of colts. What follows was gleaned from the placards:

Young Rawley, a draught stallion, with family of colts.

Young Norman, 1 year.

Mare Naucy, with colt.

Mare Norman Princess, 3 years.

Filly Lucy, yearling, 6 colts.

Filly Princess, 2 years.

Dougherty & Martin exhibit draught stallions, Grant, 2 years old, Abe Lincoln, 6 years, Haight, 2 years, and Champion 7 years.

John Scott exhibits horse of all work, Prince, 2 years.

John Johnston, exhibits draught stallions, President, 7 years; Dublin, 5 years. Thomas Blake—draught mare Frances Friend.

Massey Thomas, of Gilroy, exhibits Scottish Chief, Jr., 7 years old, stallion of all work.

Geo. Treat exhibits thoroughbred mare Virginia, 3 years.

Thoroughbred stallion, No Name, 2 years.

An immense black stallion and mare are in stalls 66 and 67, but there was nobody in the neighborhood who seemed to know anything about them.

James Burke exhibits draught stallion Captain, 3 years.

Augustin Gherero exhibits graded stallion, Gus, 3 years; Maggie, yearling filly, and Jennie Noyes, roadster, 14 years.

David Barnes exhibits roadster gelding Prentice Boy, 7 years old, and graded stallion Henry Williamson, 4 years.

Walter Smith exhibits roadster stallion Terminus, 3 years, and graded stallion Captain Webster, 8 years.

John Hall, of Alameda, exhibits a 3 year old stallion Iron Clad, by Woodburn; stallion Columbia, by Woodburn, 2 years old; and filly Abi, by Woodburn, 2 years old.

Wm. Paul, of Mayfield, exhibits a brown gelding, Scipio, roadster, 6 years old, by Comet.

Also, 3 year old mare Emma Madigan, by Abdallah. Also, pair of carriage horses, Jim and Joe. And a saddle horse, Santa Clara, 5 years old.

Sheep.

Peter Saxe has on exhibition 6 Cotswold rams, 2 years old; 1 yearling ram; 3 yearling ewes, and 3, 2-year-old ewes.

Major Robert Beck makes an exhibition of Silesian sheep, 5 bucks and 5 ewes, 2-years old.

Mr. Emerson, of Mountain View, has a fine exhibit of Cotswold sheep—a ram, 3 ewes and 3 lambs. The ram is very much admired; one of his progenitors cost \$5,000.

John Hall, of Alameda county, has a Southdown ram and ewe.

Smith, Overheiser & Patterson, of Stockton, make an exhibition of Spanish Merinos—4 2-year-old rams, 4 yearling rams and 4 lambs. These sheep, though they look dirty, have really very white fleeces, the wool being so thick that the dirt cannot get to the skin, and they shear from 18 to 36 pounds.

Swine.

Charles H. Cushing, of San Leandro, has 2 Essex cows and 1 boar, 4 months old, bred by Samuel H. Brown, Maple Grove, Milbrook, Dutchess county, N. Y.; just imported by rail.

Thomas Finley exhibits a Chester White sow and boar, four months old. Bred in Chester county, Penn.

Also one Essex boar, and one sow 4 months old, same family as Mr. Cushing's pigs.

Poultry.

Thomas E. Finley has a fine collection of poultry. A glance at the coops shows two California raised Dark Brahmas; five Buff Partridge Cochins; nine Dark Brahmas and fifteen Light Brahmas; 4 White Partridge Cochins; 3 Gold and 3 Silver Hamburgs; 3 Gold and Silver Polish; 3 La Fleche and 3 Houdans, and 4 Bronze Turkeys.

Otto Adams exhibits 2 wild geese.

Thomas D. Norris, 2 Sebrights, about as big as partridges.

The award of premiums will be found on another page.

EDITORS PRESS:—Can you tell us why the flea powders, so much used on this coast, are death to insects and harmless to the touch (and perhaps taste) of individuals?

Because they act merely upon the respiratory organs of the insect. They are not "poisonous" in the usual sense of that term. They simply close up the breathing organs of insects, by mechanically obstructing the passage of the air thereto.

BOSTON AGENCY.—T. C. Evans, No. 106 Washington street, Boston, will receive subscriptions and advertisements for our paper. We have known Mr. Evans as a reliable newspaper advertising agent for 10 years.

Home Manufactures.

For more than twenty years the opinion has been current, and often the theme of both common conversation and elaborate essays, that California can never become a manufacturing country. For this grave and foreboding opinion three formal reasons are given, viz: that the country does not produce the raw material; that our distance from producing countries is so great that transportation of the raw material would cost us so much that we could not compete with others; and that if we had the material, the price of labor is so high as to be absolutely prohibitory.

These premises being true, the conclusion would be necessary; but are they? If any one of them is not true, or only partially true, the conclusion will necessarily be modified. If they are all fallacious, the conclusion falls to the ground. Let us examine somewhat carefully, for the importance of the subject to the future of our State is absolutely vital.

First—Do we not produce the raw material?

Of wheat, the market reports of the principal cities and the most populous nations on the globe, attest our ability to supply in almost unlimited quantities. And the manufactures from wheat are by no means confined to flour and breadstuffs. The starch for our ten thousand laundries, and the preservative spirits of every medicine chest, and the stimulants of every sick chamber in the civilized world, are, in no inconsiderable measure, drawn from this staple product.

Of wool, we produce enough to supply, in no small degree, the large manufactures of the East, and that, too, at highly remunerative prices. So eminently is this true, that if present prices could be guaranteed for the next seven years, California would, before that time, produce more than is now produced in the whole United States.

Of hides and skins for leather, the horns for combs and the hoofs for glue, largely used in Eastern manufactures, we supply a large amount.

Our ability to produce cotton and flax is fully demonstrated, while our product of grapes—the substratum of different manufactures—is unquestioned and unrivalled.

But in the department of wood fit for manufacturing purposes, it has been most boldly and persistently asserted that we do not and cannot produce it. This idea is, however, rapidly yielding to the stubborn argument of facts. The panel work in our State Capitol, from the native woods of our hills, has attracted the marked attention and praise of persons of the highest culture, fresh from the examination of the best work in the capitols and palaces of Europe. The locust and the bodach, grown everywhere on our bottom lands with great readiness and vigor, are not surpassed in any part of the world for excellence in the manufacture of all kinds of wagons and carriages.

It is evident from these facts, pertaining to only a few of our many productions, that the first premise—inability to produce—is a fallacy. It is proposed, in future brief articles, to show that the others are equally so.

PROLIFIC FRUIT BEARING.—Mr. James Stratton has shown us several branches, about 15 inches in length, crowded with fair looking apples grown upon tule land on New York Island, opposite New York Landing, at the junction of the Sacramento and San Joaquin rivers. The land is of the richest class in our State. This island is being thoroughly reclaimed by Capt. L. D. Allen, of San Francisco, and Mr. Stratton.

CANARY SEED CULTURE.—In addition to what has already been said in the Press upon this subject, "P. E. D." is referred or further information to Mr. Doble of Purissima, San Mateo county.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING AUGUST 15TH.

CAR-COUPLING.—Perry W. Davis, Portland, Oregon.

SASH-HOLDER.—Thomas Jennings McCarver, Oregon City, Oregon.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

GEYSER CANON*.

The accompanying cut is a general view of the far-famed Geyser Cañon, one of the great natural curiosities of our much-to-be-admired State.

The Geyser springs are situated among the hills in Sonoma county, about 100 miles from San Francisco, and are so easy of access that not only tourists, but the people in our own community, should not fail to visit them. The view of the Geyser from the hotel is grand in the extreme, especially in the early morning, when the dense volume of steam can be seen rising in majestic columns from the cañon in the distance; but when the sun is up, the cloud is less dense, it being speedily evaporated.

Leaving the hotel, which is situated at the base of the hill among the timber, you pass up the rocky trail to the summit and thence down into the Geyser Cañon, the subject of our sketch. The first spring that attracts attention is the "Steamboat Geyser," on the side hill, so called from the noise it makes, resembling that of a steamer "blowing off." The steam escapes through a hole in the rocks about two feet square, as if from under great pressure, and in fact makes more noise than any spring in the cañon. It is dangerous for a stranger to approach too close, for the steam is so overheated that it is invisible until some distance in the air, and a slight change in the direction of the wind might be attended with serious consequences.

Below and in the center of the cañon is the "Witches' Cauldron," formed by four large rocks, and the water which is of inky blackness, is continually bubbling up with great noise, so as to render conversation in the vicinity impracticable. This is aptly named and one might easily imagine in the dusk of evening, the three witches crouching

around this infernal kettle, in this appropriately wild and unearthly spot. The vapor from this spring deposits a black sediment on all the rocks in the vicinity.

The "Devil's Pulpit" is next in order, at the head of the cañon on the hill. The hotel may be seen from this point and a fine view obtained of the Geysers themselves. The ground is hollow and trembles under the footstep, so that a timid spectator might well suppose this to be a favorite resort of his satanic majesty. The "Lovers' Retreat" is a quiet, secluded spot, surrounded by foliage, beside which the stream murmurs placidly on its way to the sea. A fallen tree serves for a seat, to those romantic enough to spend an hour here, and two large stones may be used as foot-stools.

Among the smaller springs, which are numerous, are the "Devil's Tea-Kettle" and the "Devil's Ink-Bottle," from the latter of which issues a liquid which can be, and is, used for writing purposes; but which on being left quietly in a bottle precipitates a black, sulphurous substance, leaving the liquid as colorless as water. The stream moving down the cañon is cold at its source, but gradually becomes warmer, from the numerous springs of different

gradation of temperature which empty into it. Boiling water, and that cold enough to drink can be seen issuing from the ground in the space of a foot. The rocks and ground are heated so that in many places it is impossible to stand for any length of time, and as for sitting,—just try it. The old crater on the trail from the "Lover's Retreat" to the hotel is worthy of a visit, the ground in the vicinity being covered with sulphur, sometimes beautifully crystallized, and as we walk, an undulating motion is perceptible, and it sounds hollow and vibratory, so as to make one "brush up" his philosophy and begin to calculate on the thickness of the earth's crust, and the possibility of its breaking through.

The chemical substances are various and in abundance. There is a large chalk bed, another of a substance they call "putty," which is soft under the foot and can be kneaded in the hand. Epsom salts, alum, "devil's ink," magnesia, alum waters, a liquid they call, in the locality, eye water, copers, iron water, cinnabar and quantities of sulphur of course.

This locality will please not only a lover of nature, from the grandness of the scenery, but scientific men who are capable of divining the mysterious causes of

construction with the apparent merit of sensitive action on the steam valve and a motion to stop the engine in case of breakage. Invented and perfected by San Francisco mechanics and patented by Dewey & Co.'s agency.

A STEAM WASHING MACHINE just patented through our agency, exhibited by H. E. Lea, of Half-Moon Bay, will be described and perhaps illustrated by us at another time. J. Burnap, 425 Davis street, S. F., is the agent for the inventor.

ROLLER SKATE.—John L. Boone displays seven pairs of different sizes of his patent C-Spring Skates, already illustrated in the PRESS. As one of the most original California inventions it attracts much attention and many favorable remarks.

CALIFORNIA INVENTIONS.—Among the most novel inventions exhibited by our own Pacific Coast inventors and patentees, we would briefly call notice to the following either specially interesting or worth examining. A number of them as well as others on exhibition will be described at length when our columns are less taxed, or illustrations provided:—

THOMAS HILL'S STEAM RAM and projectile for war steamers—a beautiful and thoroughly constructed operative model. Illustrated in the SCIENTIFIC PRESS in 1870. Mr.

receiving rapid concussions by means of cams and springs. It runs easy, is light and easily handled. No fan is employed in it.

THE NOVELTY FANNING MILL.—R. Stone, agent, S. F.—has been illustrated and described in the SCIENTIFIC PRESS as a first class mill for thorough and complete separation and cleaning. We always find it working well and satisfactory. Good construction and completeness are the points claimed for it.

NASH & CUTT'S FANNING MILL AND SEPARATOR, is exhibited by Nash, King, Miller & Co., of Sacramento. It is a well tried and we believe favorably considered apparatus at home. A wide range of work is claimed for it, rendering it an extended field of usefulness for cleaning all kinds of grain, peas, beans, corn, etc. The better preparation of our cereals for market, and especially for seeding, by the extended use of this class of machinery is worthy of all encouragement.

EUREKA CHURN, by E. Grout, Napa, has two series of fingers or stirrers placed in the manner of folded hands or fingers, working in opposite directions back and forth in the cream, by a hand lever.

A NEW METHOD OF PRESERVING FRUIT in jars, by exhausting the air is effected by a novel apparatus invented by D. N. Phelps. His experiments are worthy of a more extended notice than we are now giving, and will receive attention hereafter.

THE PACIFIC POTTERY, of N. Clark & Co., Sacramento, have a good display, and are alone in their wide range of useful home manufactures.

A POULTRY FOUNTAIN is a new device made by the above firm. It consists of an earthen bottle having a minute hole at the bottom. This is set into an earthen tray of about 2½ inches greater diameter than the bottle. The bottle filled, corked tight at the top, and placed in the tray will discharge water into the same until the small supply hole is covered, when the discharge will cease for reason that the air is cut off from supplying the vacuum necessarily formed in the bottle. As soon, however, as the fowls lower the water in the tray the bottle will give down a fresh supply.

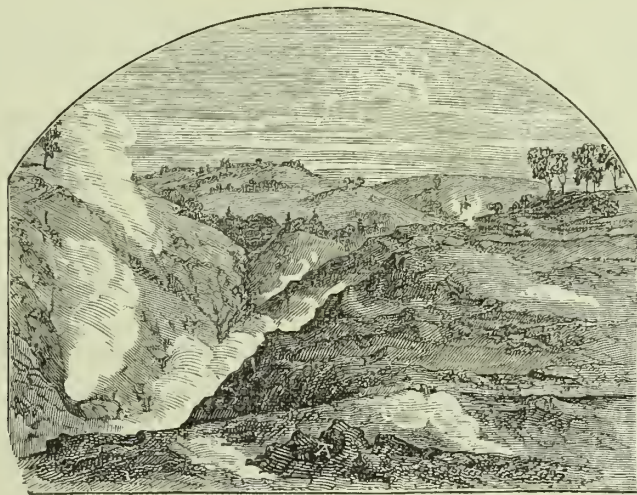
WINE CASKS.—Messrs. Fulda & Sons, as a leading cooperage firm of this city, exhibit samples of their mammoth work unsurpassed by any country. Our great wine interests have brought out much skill in this branch of home industry, and Mr. L. R. Fulda (a young member of the firm) has patented, and is still procuring patents, for inventions calculated to do work in his line by machinery to greater advantage than has hitherto been attempted.

HORTICULTURAL.—In the horticultural exhibition, Mr. D. L. Perkins, of Sherman Island, has added to his prominent display, the following:—Water melons, 3 varieties; cantelopes, 3 do.; beans, green, 5 do.; tomatoes, 3 do.; beets, 3 do.; cucumbers, 3 do.; squashes, 2 do.; carrots, 1 do.; onions, 1 do.; potatoes, 3 do.

Among the cantelopes we find a variety called the Magnesia, a very late keeper, being in good condition for the table about the 1st of January. The sample exhibited is not more than half grown. Mr. Perkins thinks that for sugar it has no superior, being very heavy, and full of saccharine.

Amongst the potatoes we find the Climax, a new variety of whites. Also the four-pound Trophy tomato. All these vegetables were growing on his ranch on Monday afternoon and were in the Fair on Tuesday evening.

ILLUSTRATIONS.—J. H. Andrews' Gang Plow; Matteson & Williamson's Gang Plow; Edmund Higgings' Self-opening Gate; Vestal's Wagon Axle Gauge, and several other California inventions will soon be illustrated in the PRESS.



GEYSER CANON.

these springs, can enjoy it as a study. It is said that the winter is the best time for a visit. There are two routes, one via Petaluma and Healdsburg, and the other, by taking the steamer 'Capital' to Vallejo, thence by cars to Calistoga (always worthy of a visit), and then, by Foss' line of stages, over a romantic and delightful road about 28 miles, to the Geysers. The latter is the one most generally traveled.

*Our illustration is from the Scenes and Wonders of California, by J. M. Hutchings. A. Roman & Co., Publishers, San Francisco.

NOTES AT THE S. F. MECHANICS' INSTITUTE FAIR.

[In these articles we have room only to notice briefly such articles as come specially under our observation. More replete descriptions of the most interesting and instructive exhibits will be given in the PRESS in our greater leisure hereafter. No classified catalogue being published we do not in this number give complete notices in any particular department.]

RAMIE.—Messrs. Finch & Meek exhibit a fine specimen of the Ramie (or Chinese grass) plant, some six feet high, said to be about the average size in their field in San Lorenzo, Alameda Co. They also exhibit a machine for separating the fibre from the woody portion of the stalks or branches of the plant. It is one of the only seven machines yet made in the U. S. A series of corrugated rollers form the operative part of the apparatus, which seems to do its work effectually. The exhibitors do not intend to harvest their crop, but will layer the plants this season to produce cuttings for cultivating a 200-acre field they are about purchasing in Los Angeles. Samples of cloth are shown from a new manufactory built at Cahoes Falls, N. Y.

A PATENT GOVERNOR exhibited by J. Hendy, shows a simple and not expensive

H. has various other inventions each worthy of a fortune.

PATENT REEL FOR HARVESTERS, by S. P. Doane, with Baker & Hamilton, S. F.

OILER FOR CRANK PINS for steam engines, W. F. Phillips. Recently patented. Quite novel.

PORTABLE SAWING MACHINE, lately patented by Per. Johnson, of Columbia, Tolumne Co.

IRON WHEEL BARROW.—A handy article patented by Wm. McKibbin, one of our best known mechanics.

THE LAWN SPRINKLER—an original idea by Mr. Anderson, engineer, Tubbs' rope factory. Just the thing for this dry country. Illustrated by us recently.

SWETT'S WINDOW FASTENER, which locks the sash and prevents it from rattling. A cheap and simple article.

WHITING'S WINDOW FASTENER.—A very substantial and convenient arrangement for moving the sash to any point and fastening it against burglars.

A HAY RAKE, which has been tested and praised by practical farmers, is manufactured in S. F. by the patentee, Olpha Bonney; we recommend its liberal introduction.

A FARM GATE, practical in every particular that we can see, is exhibited by M. Barttel, and described in our notices of recent inventions. An enterprising manufacturer can make money out of this invention here and in the Eastern States—we think.

HUNTER & WEISTER'S SEPARATOR is the simplest and cheapest successfully operating grain cleaner in the world. The grain is separated from foul seed and foreign substances by a series of inclined screens



What Came of It.

"Father," said little Lee Hathaway, "will you give Frank and me the square of ground under the south windows for a flower-bed next spring? The sun always reaches it, and it will be so much prettier than it is now, without even a tuft of grass growing there. We can get a pretty assortment of seed for a dollar. Say, father, may I?"

Mr. Hathaway did not look from his paper for a minute, and when he did, there was evidence of displeasure on his face. "You may have the patch for potatoes if you like, but I tell you now, boy, I don't want any dilly-dallying with flowers. What time you are not in the school-room you are needed in the field. Last year you bothered me to death teasing for a flower bed, and I don't want you to begin again this year. So don't let me hear another word about it."

The father looked at his watch. "It is 9 o'clock, boy, and your bed time. Now you and your brother go to bed, and remember you are to be up at six to drive the cows to pasture, and don't wait to be called either."

Lee arose from the table with a dark sullen look in his eyes, took up his candle, and stooped over his mother for a good-night kiss. She patted the boy's cheek tenderly, held the younger boy, Frank, close to her for a moment, then following them wistfully with her eyes, as they left the room. Mr. Hathaway never cared for a good-night kiss, and his boys never offered it.

After the boys had gone to their room, Mrs. Hathaway looked up from the socks she was darning, and said, timidly:

"George, I wish you would think better of this flower-patch. It can do them no harm, and while they are cultivating the flowers they are not in evil company. Besides, I think the love of them is a refining power, and should be encouraged. The little fellows have set their hearts upon it, and it seems a pity to disappoint them; they are such good boys, too."

"Mary," said her husband, sharply, hitching his chair near the fire, "you are bound to ruin them boys! It does well enough for girls, perhaps, to dabble with flowers and other effeminacy, but boys should be made of sterner stuff. Yes, they are good boys, and I want to keep them so, and not spoil them by giving them a flower-bed apiece to dally with."

"But," interposed Mrs. Hathaway, gently, "they must have some amusement, and if we will not give it to them at home they will find it elsewhere. Are they not much better off in our own yard pulling the weeds from among the pinks and daisies than they would be on the street, among the rough village boys, sowing tares in their own lives, that neither your influence nor mine can ever entirely uproot? Let us make home the dearest spot on earth to them, my husband, so they will never have to leave it to seek their comfort elsewhere!"

Mr. Hathaway's face did not altogether soften out of its hard expression, but tossing the paper on the floor, (a man's invariable custom), he said:

"Well, Mary, you can have your way this time, and we will see how long that broom will sweep clean; but mark! just as soon as they begin to neglect their work, or are late to school, or tease me for money to buy flower seeds, I will pull every holly-hock and lady-slipper up by the root, and throw them over the fence," and Mr. Hathaway pulled off his boots and went into his bed-room, shutting the door behind him a deal harder than was necessary.

When he had gone, Mrs. Hathaway drew a long, tired sigh, laid away her patching, took up the lamp and went up stairs to her children's room.

In one bed her little girl, the youngest of the flock, lay sleeping, with her soft, pink and white cheek nestled in her hand. She laid her lips lightly upon the child's forehead, then crossed the room and bent over her boys.

"What! not asleep yet, dear? Are you ill?" and she laid her hand on Lee's forehead.

"No, mother, I am not sick; but I am so disappointed about—" and the boy broke down with a sob.

Mrs. Hathaway stroked his cheek tenderly.

"There, there, dear, don't cry! Father says you may have the flowers, dear child, only don't ask him for money, nor worry him about it in any way. I will see to that; and don't neglect other duties. Now go to sleep. Have you said your prayers?"

"No, mother, I couldn't, I felt so wicked. I will now, though."

Mrs. Hathaway sighed and turned the blankets about them, for it was a blustering night in February, went down stairs, and crept into bed beside her sleeping husband.

March came and went, April breathed her mild air on the snow-drifts and melted them all away, the merry summer months came at last, and the world was full of bloom and odors and freshness, but the sweetest comfort of all the summer to Mrs. Hathaway was the little rainbow-hued patch under the sunny south windows. It was such a new thing to her to have flowers in her yard, and she loved them so! "They seemed to glorify the old place," she said.

The boys were up an hour earlier mornings, in their combined efforts to keep the weeds from strangling their lovely pets. Then they trained vines over the windows, forming a pretty background for their play; and Mrs. Hathaway who had never known the comfort of blinds since she came to live in the plain, comfortable home, sat in their cool shadow and sewed through the sultry afternoons, while the summer air cooled her heated forehead, and tumbled her fair brown hair.

Over and over again she blessed her boys for thinking of this, and wondered what she would do without them anyway. Their father found no cause to grumble over neglected tasks, for their mother always performed little forgotten duties herself when they failed, and so hid their fault from their father's eyes.

One July afternoon, Jerome and Charley Winthrop, two of the neighbor's boys, leaned over Mr. Hathaway's gate and called to Lee—

"Halloo! Lee, Don't you want to go over to the pond, fishing? There is a boat there now, and we can row down to the river and have a swim in the cove. What do you say?"

Lee hesitated. No one but a boy knows what a temptation it was; and he so loved to fish! It wasn't often he had such a chance, and his father had given him that afternoon to do as he liked with it. He believed he would go; so he dropped his wedding knife, and started for his hook and line.

As he came back he spied his mother among the raspberry bushes, and he turned back and laid his tackle upon the shelf again.

"I can't go this afternoon, boys, come to think, I promised mother I would transplant some asters to-day, but I would like to go right well."

"I'm sorry you can't go," said Jerome. "Give me one of them red flowers, will you?"

Lee picked one of the prettiest, and handing it to him, said—"Why don't you have a flower-bed, Jerome?"

"Father says it's nonsense, and plowed up even the daffodils in the spring. I did tease him for one, but he shamed me out of it. I like to work in flowers, too!" said the boy, dolefully.

A few minutes after they crossed the hill and were out of sight, while Lee worked away, whistling a tune.

Two hours later the sultry sun had slipped behind a threatening cloud, and there was promise of a heavy shower. The thunder muttered sullenly, and little zigzag tongues of flames hissed at each other in the gray sky and the great drops rattled down.

By-and-by there was a lull. Just then one of the village girls ran by, white and breathless. "What's the matter shouted Lee."

"Oh, something terrible!" gasped the girl. Jerome and Charlie Winthrop were both drowned in the pond," and the child ran on with a terrified heart and swift feet.

The slate he had been using dropped from Lee's hand, and his mother with a face bleached with terror and with grief caught him in her arms and strained him to her for swift as an arrow the thought pierced to her heart, what might have been, but for the little patch of flowers, the love of which had kept her boy safe from danger, and from death!

That night two white and beautiful corpses lay side by side in the desolate house of Richard Winthrop, and a frantic mother covered their mute lips with kisses, and gathered their shining hair tenderly in her covetous hands!

Only a little way from this house of sor-

row, was another home where Mr. Hathaway sat, with a boy on either knee, stroking their cheeks with a tenderness he had never shown before, while Minnie hung over the back of his chair. He had learned a new lesson and his grateful softened heart was saying it o'er and o'er. He was not a demonstrative man, but he was not without love for the boys; when he thought how nearly he had come to losing them, it awoke all the father-love and tenderness within him.

"Mary," said her husband softly, and in a broken voice, as he leaned over her chair, when she had come from putting her precious children in bed, "I have been harsh with you and the children, always. You have been a patient wife, and they have been good children, but I can't remember many loving words from me in return for it all. Oh, Mary! what a blessed wife and mother you have always been! I see it all to-night, and will begin over again, please God!" and the softened husband ran his hand through his wife's hair, so early threaded with white.

"You have never meant to be unkind, George," said his wife, leaning her cheek lovingly on his hand, "only a little thoughtless, as we all have been, often. But, dear, flowers are as useful as potatoes in their places and oh, what a beautiful blessing they have proven to us, my husband?"

And after that the little flower patch was kept bright with the choicest bloom the summer through.—*New York Mercury.*

The Elder Sister.

There is no character in the home circle more useful and beautiful than a devoted elder sister who stands side by side with the toiling mother, lightning all her cares and burdens. How beautifully the household machinery move on with such efficient help! Now she presides at the table in her mother's absence, always so neatly attired that it is with pride and pleasure the father introduces her to his guest as "our oldest daughter." Now she takes a little troop with her into the garden, and amuses them, so mother may not be disturbed in her work or her rest. Now she helps the boys over their hard lessons, or reads father's paper aloud to rest his tired eyes. If mother can run away for a few days' recreation, she leaves home without anxiety, for Mary will guide the house wisely and happily in her absence. But in the sick-room her presence is an especial blessing. Her hand is next to mother's own, in gentleness and skill. Her sweet music can charm away pain, and brighten the weariest hours.

There are elder sisters whose presence is not such a blessing in the house. Their own selfish ends and aims are the main pursuits of life, and anything that stands in the way of these, is regarded with great impatience. Such daughters are no comfort to a mother's heart. Which kind of an elder sister are you in the household?

NEGATIVE KINDNESS.—Do the doctors know that half the wives in the world die of this complaint? "He never spoke an unkind word to his wife. Yes, but did he remember, now and then, to speak a kind one? Did he have any sympathy for her bodily or mental ills. Or was he blind and deaf to both, treating them with that cutting indifference which chills the most loving heart, and silences its throbs forever? Men are very guilty in this regard. They take a young girl from the warm atmosphere of a loving, cheerful home, and, after a few brief weeks of devotion, leave her to battle single handed, and to bear sickness with what courage she may; and go their ways into tangled paths of life, without a thought of the responsibilities they are shirking, or the solemn vows they have really broken.

CHILDREN are inquisitive bodies—for instance: "What does cleave mean, father?" "It means to unite together." "Does John unite wood when he cleaves it?" "Hem, well it means to separate." "Well, father, does a man separate from his wife when he cleaves to her?" "Hem, hem, don't ask so many foolish questions, child."

CHILDREN are great realists, interpreting things in the most literal sense. To the infantile mind the beautiful metaphor of the Lord walking in the garden in the cool of the day, conveys the idea of a tangible presence.

"I know," said a little boy to whom the passage was read; "just as papa does, with his hands behind him, and an old coat on."

EVERY boy and girl should be taught some useful employment, such as shall make them self supporting.

Young Folks' Column.

"Kiss me, Mamma."

"Kiss me, mamma, before I sleep." How simple a boon, yet how soothing to the little suppliant is that soft, gentle kiss. The little head sinks contentedly on the pillow, for all is peace and happiness within. The bright eyes close, and the rosy lip is reveling in the bright and sunny dreams of innocence. Yes, kiss it, mamma, for that good-night kiss will linger in memory when the giver lies mouldering in the grave. The memory of a gentle mother's kiss has cheered many a lonely wanderer's pilgrimage, and has been the beacon light to illuminate his desolate heart; for remember, life has many a stormy billow to cross, many a rugged path to climb, with thorns to piece; and we know not what is in store for the little one so sweetly slumbering, with no marring care to disturb its peaceful dreams. The parched and fevered lip will become dewy again as a recollection bears to the sufferer's couch a mother's love—a mother's kiss. Then kiss your little ones ere they sleep; there is a magic power in that kiss which will endure to the end of life.

Good Manners.

Young folks should be mannerly. How to be so is the question. Many a good girl and boy feel that they can't behave to suit themselves in the presence of company. They feel timid, bashful and self-distrustful the moment they are addressed by a stranger, or appear in company. There is but one way to get over this feeling and acquire easy and graceful manners; that is, to do the best they can all the time at home, as well as abroad. Good manners are not learned by arbitrary teaching so much as acquired by habit. They grow upon us by use. We must be courteous, agreeable, civil, kind, gentlemanly, and womanly at home, and then it will become a kind of second nature to be so everywhere. A coarse, rough manner at home begets a bit of roughness which we cannot lay off if we try, when we go among strangers. The most agreeable people we have ever known in company are those who are perfectly agreeable at home. Home is the school for all good things, especially for good manners.

What shall that Boy Do.

Who will tell the boy who reads this, what he will do? When he becomes a man will he do many things? Will he read and so be intelligent? Will he write, and so be useful and healthful in speech, ready in communication and of strong influence? Say, my boy, what are you going to do by-and-by. Do you swear now? Do you cheat, deceive, lie or steal? Do you do dishonorable things? Are you disrespectful to, or do you disobey, your parents and teachers?

Remember the boy makes the man. If the boy is bad the man will be. Fix it in your mind which you will be.

WORK AND WIN.—Boys, read, and heed what Alexander Hamilton once said to an intimate friend: "Men give me credit for genius. All the genius I have lies just in this:—When I have a subject in hand I study it profoundly; day and night it is before me; I explore it in all its bearings; my mind becomes pervaded with it. Then the efforts which I make, the people are pleased to call the fruit of genius. It is the fruit of labor and thought."

CHILDREN'S SCRAP BOOK.—It is well to save childish pictures and wood cuts of various kinds, (many of which give children an excellent idea of places,) and paste them into an old ledger or copy book. They help pass away many a childish hour, and are at once innocent and instructive. With the help of questions from their elders, they aid children to think.

A LITTLE newsboy, attempting to jump from a street car, the other day, fell under the car and was fearfully mangled. As soon as he could speak he called piteously for his mother, and a messenger was sent at once to bring her to him. On her arrival she hung over the dying boy in an agony of grief.

"Mother," he whispered, with a painful effort, "I sold four newspapers—and—the—money is in my pocket!"

THE boy who wished he was a fountain, so that he might be playing, didn't reflect that a fountain doesn't play unless it works well.

DOMESTIC ECONOMY.

Pastry.

In making pastry, the cook should be particularly clean and neat. Her utensils should be kept in order, and when they are done with, should be carefully cleaned and put in their places. Her pasteboard and rolling-pin, let it be remembered, should after using be well scoured with hot water alone. A marble slab is preferable to a board for rolling paste. Both are generally made too small to be convenient. Three feet long by two feet wide is a good size. In making a paste, a good cook will have no waste of any kind, and particularly, she will not make more at one time than she wants, under the idea that she can keep it in flour till the next time of making, for it is ten to one but that the old paste will spoil the new. No flour except the very best can be used for fine descriptions of pastry, and in damp weather it should be dried before the fire, but not scorched. Clarified dripping, good lard, marrow, salt or butter well washed, may be used for ordinary pastry; indeed, if they are pure and sweet, they will form good pastry, with good flour and good management. In families, however, where economy is not an object, and everything for the table is required to be of the first quality, the safest plan is to use the best fresh butter. The fat that settles on stews, and on the broth in which meat has been boiled, may be used for pastry, that is, provided it is tasteless. Suet is sometimes used for meat pies, but though it makes a light crust when hot, it does not eat well when cold.

A great deal more butter, or fat of some kind or other, was formerly directed to be used in making pastry than at present. For ordinary purposes, half the weight of lard, or butter is sufficient, but in the richest crusts the quantity should never exceed the weight of flour. Eggs may be added to enrich the crust. Use no more water or other liquid in making paste than is absolutely necessary; or, in other words, take care not to "put out the miller's eye," that is, to make the paste too moist. The great thing is to incorporate the flour well with the fat, which you cannot do if you allow too much water or milk in the first instance.

The under or side crust, which should be thin, should not be made so rich as the top crust, as otherwise it will make the gravy or syrup greasy. All dishes in which pieces are to be baked should be buttered or greased round the edges, to prevent the crust from sticking, and if there be an under crust, all over the inside; the same must be done with tins or saucers.

OUR KITCHENS.—You are fortunate if your kitchens have a sunny outlook. A south window catches all the precious winter sunshine, and is not as uncomfortable on account of heat in the summer as an east or west window. Sunshine goes a great way towards furnishing a room, as well as driving care, fatigue and disease away from those who live and work in it. Of course, you may not all have model kitchens, though you may so much desire them; and just here comes to mind this quaint old rhyme, which applies to housekeepers, as much as to any other class:

"For every evil under the sun
There is a remedy, or there is none.
If there be one, try and find it;
If there be none, never mind it."

CURRENT WINE.—Gather full ripe currants on a dry day, pick them from the stalks and weigh them; then crush them with your hands, leaving none whole. For every two pounds of currants put one quart of water; stir all well together and let it stand three hours, and strain the liquor through a sieve; then for every three pounds of currants put one pound of powdered loaf sugar; stir it till the sugar is dissolved, boil it and keep skimming it as long as any scum will rise. Let it stand sixteen hours to cool before you put it in the cask, stop that very close. If the quantity be twenty gallons, let it stand three weeks before you bottle it; if it be thirty gallons, it must remain a month; it should be perfectly clear when drawn off. Put a lump of sugar in each bottle, cork it well and keep it in a cool place or it will turn sour. This is a pleasant and cheap wine, and if properly made will keep good for many years; it makes an agreeable beverage for the sick, when mixed with water.

TO STEW TOMATOES.—Pour boiling water over fair and fully ripe tomatoes, that you may peel them quickly; let the water remain only long enough to start the skin. When peeled, cut into a porcelain-lined kettle, as tin or iron turns them dark, and gives them a bad taste. If onions are agreeable, cut one small one in with the tomatoes. Cover closely, and set where they will gently simmer, but not boil hard. Stir them occasionally to prevent burning, and when they have cooked two hours, add pepper and salt to suit your taste, and to a quart of tomatoes add a teaspoonful and a half of sugar, and $2\frac{1}{2}$ even spoonful of bread or cracker crumbs. After the crumbs are added stir often or they will stick to the bottom of the dish and soon burn. Twenty minutes before dinner beat two eggs, or if you have more than a quart of tomatoes, increase the number in proportion of two eggs to a quart; stir briskly and often after the eggs are added, and serve hot. If possible, the tomatoes should be skinned and set on the back part of the stove before breakfast, as the longer they simmer, the better they will be. Three hours' slow cooking at least—five is better. If prepared according to rule, they are thought very nice by tomato lovers, and are better warmed over the second day than the first.

CUCUMBER SALAD.—Take a dozen ripe "White Spine" cucumbers and pick, wash, pare, and cut into strips, taking out the seeds; then to each dozen cucumbers—which we cut up into pieces like small dice—put twelve large white onions, chopped, six large green peppers, also chopped, one quarter pound each black and white mustard seed, and a gill of celery seed. Mix together, add a tea-cup of coarse salt, and hang up in a cotton bag to drain, for twenty-four hours. Then the salad, with enough cold cider vinegar added to cover it, is put into stone jars and fastened nearly air-tight. In six weeks it will be fit for use.—Mrs. S. J. H., in *Hearth and Home*.

RASPBERRY VINEGAR.—Put a pound of very fine ripe raspberries in a bowl, *bruise them well*, and pour upon them a quart of the best white wine vinegar; next day strain the liquor on a pound of fresh ripe raspberries, *bruise them also*, and the following day do the same, *but do not squeeze the fruit or you will make it ferment*, only drain the liquor as dry as you can from it. The last time pass it through a canvas bag previously wet with the vinegar, to prevent waste. Put the juice into a stone jar, with a pound of sugar to every pint of juice; the sugar must be broken into lumps; stir it, and when melted, put the jar into a pan of water; let it simmer, and then skim it; when cold, bottle it. It will be fine and thick when cold, and a most excellent syrup for making a wholesome drink.—*German Town Telegraph*.

LAYING DOWN CUCUMBERS.—The best way to lay down cucumbers is to sprinkle salt over them, and let them form their own brine. A board and stone should be laid over them, in order to keep them under the brine. If in three days there is not enough brine formed to cover the cucumbers, there is not salt enough on them and more should be added. They should never be allowed to protrude above the brine, as a white mold will form and they will soon soften. In cutting the cucumbers from the vine, leave a stem on the pickles. They keep better and appear better on the table.

TO DO UP SHIRT BOSOMS.—Take two ounces of fine white gum arabic powder, put it into a pitcher and pour on a pint of water and then having covered it, let it stand all night. In the morning pour it carefully from the dregs into a clean bottle, cork it and keep it for use. A tablespoonful of gum water poured in a pint of starch made in the usual manner, will give to lawn, either white or printed, a look of newness, when nothing else can restore them after they have been washed.

HOW TO MAKE SEIDLITZ POWDERS.—Seidlitz powders are an excellent corrective for acidity of the stomach; and every farmer can make them for himself. Mix twelve drams of powdered Epsom salts with twelve scruples of powder carbonate of soda, and divide into six parts in blue papers. Divide also into six parts, in white papers, four drams of Tartaric acid in six powders. Every time you take the powders, mix one of each paper in two glasses.

TO DRY CITRON OR WATERMELON RIND.—After preserving, place in the sun, and dry. They answer well in puddings and cakes as a substitute for the imported citron.

Domestic Receipts.

APPLE SNOW.—Stew fine-flavored, sour apples; sweeten and flavor to suit your taste; strain, and to one quart of sifted apples allow the whites of four eggs. Whisk them to a stiff froth; then put the apples and whites together, and continue to whip until so stiff you can turn the dish upside down without the mass falling off. Eat with cream or with bread and milk.

SCALLOPED TOMATOES.—Peel and cut in slices a quarter of an inch thick. Pack in a pudding dish in alternate layers, with a force-meat made of bread crumbs, butter, salt, pepper, and a little white sugar. Spread thickly upon each stratum of tomatoes, and the dish is nearly full, put tomatoes uppermost, and a good bit of butter upon each slice. Dust with pepper and a little sugar. Strew with dry bread crumbs and bake covered, half an hour; remove the lid and bake brown.

TOMATO SOUP.— $2\frac{1}{2}$ lbs. of veal or lamb, 1 gallon of water, 2 quarts of fresh tomatoes peeled and cut up fine. Boil the meat to shreds, and the water down to two quarts. Strain the liquor, put in the tomatoes, stirring them very hard, that they may dissolve thoroughly; boil half an hour. Season with parsley, or any herb you may prefer, add pepper and salt. Strain again and stir in a tablespoonful of butter, with a teaspoonful of white sugar, before putting into the tureen.

BREAKFAST BISCUIT.—Take a piece of risen bread dough, and work into it one beaten egg and a tablespoonful of butter or lard; when it is thoroughly amalgamated, flour your hands and make it into balls the size of an egg; rub a tin over with milk, and set them in a quick oven for twenty minutes, and serve them hot for breakfast. When eaten, break them open; to cut would make them heavy.

BREAD-AND-BUTTER PUDDING.—When dry bread is left, spread it with butter, and pile up the slices in a pudding-dish. Fill in with custard, add a few raisins. Bake long enough to cook the custard.

PEACH LEATHER.—Peel very ripe, soft peaches; mash them fine, and strain through a colander. If the peaches are not very sweet, add a little sugar. Butter well panes of glass, and spread the paste smoothly upon them. Put in the sun to dry; when dry on one side, turn it, and when perfectly dry, roll and keep in boxes. When not convenient to use the glass, butter strips of cloth, and spread upon well-seasoned boards.

Mechanical Hints.

TO LIGHT SHADED ROOMS.—The London *Builder* recommends a plan for lighting a room in which the darkness is caused by its being situated on a narrow street or lane. If the glass of a window in such a room is placed several inches within the outer face of the wall, as is the general custom in building houses, it will admit very little light, that which it gets being only the reflection from the walls of the opposite houses. If, however, for the window be substituted another in which all the panes of glass are roughly ground on the outside, and flush with the outer wall, the light from the whole of the visible sky and the remotest parts of the opposite wall will be introduced into the apartment, reflected from the innumerable faces or facets which the rough grinding of glass has produced. The whole window will appear as if the sky were beyond it, and from every point of this luminous surface light will radiate into all parts of the room.

TO DRAW POSTS FROM THE GROUND.—Procure a long chain, attach it to the yoke, pass it around the base of the post, or the part where the earth has been thrown away, place a stout prop under the chain, inclining towards the post, then let the oxen draw. There are very few posts so tight in the ground that they cannot be easily removed by the strength of two stout oxen. In this way a long line of fence may be removed in a single day.

TO REMOVE A SCREW FROM WOOD.—Heat a piece of iron red hot and put it on the top of the screw for a minute or two, then take the screw-driver and you will easily get it out, if you do it while it is warm.

STAINS may be removed from silver spoons that have been used in administering medicine by rubbing them with a rag dipped in sulphuric acid and afterward washing thoroughly in soap-suds.

THE FASTEST LOCOMOTIVE TIME.—Locomotive No. 8, of the New Jersey railroad company, is said to be the fastest locomotive in the United States, having made eighty-nine miles in one hour.

LIFE THOUGHTS.

NEVER part for a day without loving words to think of during absence.

To address man wisely you must not forget that his life is partly animal, subject to the same laws with nature.

THERE are a thousand pretty, engaging little ways which every person may put on without being affected or foppish.

THE worthiest people are most injured by slanderers; as we usually find that to be the best fruit, which the birds have been picking at.

LIFE is like a theatre. During the play we take higher and lower seats, but when it is over we mingle in the common stream and go home.

THERE are no pockets in shrouds, nor money drawers in coffins. But we accumulate good or bad capital for the other world for all that.

IT is easy enough to make sacrifices for those we love, but for our enemy we have to struggle and overcome self. Such a victory is noble.

A RARE audacity astonishes society—a remarkable instance disarms it. Society does not grant its admiration to those who creep in secret paths. Opinions in our day must be coerced, not led.

SHAKESPEARE says, "It is a good divine that follows his own instructions. I can easier teach twenty men what were to be done, than to be one of twenty to follow my own teachings."

ALL earth shows forth too nice and delicate an adaptation, too beautiful a continuation of cause and effect, to admit even a thought that the Creator has failed in His highest creation.

Little Things of Life.

The little things of life are not to be despised. They are the threads that make its woof and warp, and the life is dark or bright accordingly as these little threads are black or golden. It is grains of sand that make the ocean beach, and globules of water that make up the ocean itself, and, singularly enough, these grains of sand, and these globules of water are, each, separate, detached and distinct. Each forms part of the mass, but each is by itself. Every life is a mass of a myriad of atoms; each day of the four score years that make it up is a teeming history of acts, words, adventures, incidents, relations, thoughts, hopes, griefs, fears and emotions, each standing by itself but all connected together.

We may not neglect these individual trifles, and expect the mass they compose to be satisfactory. Even a word or a tone of voice, may make a day bright or dark; the shadow on the face of a friend casually met, will reflect a shadow on our own heart, and give us a feeling of depression that we can not comprehend, and which can not be thrown off.

A letter containing a few brief lines, from an absent relative, will sometimes drive all the clouds from our sky and make the dreariest winter day as sweet as summer. We read the letter in an instant, cast it aside, and imagine it is forgotten—so trifling and foolish it is; but it is not forgotten; it floats like a radiance around us wherever we go; it makes us strong, buoyant, and hopeful.

Our moods have much to do with our happiness; they come over us like a bath of sunlight, or creep upon us like a dismal shadow—we can not tell how; but there is always a specific cause for them. It may be so minute as to escape attention in the mass of events and incidents that make up the day's history; but if we search patiently, we will generally discover that the joy that has attended us all day long had its source in some look of love, word of sympathy, or some gratifying success in the execution of a trifling task; and that the "blues" that haunt us, are the reflection from a cold face, or the result of some petty annoyance.

Happiness does not come to us in heaps, and it is foolish to imagine that we can by a great, heroic effort of perseverance and care, bring down an avalanche of it enough, to last a lifetime. Nor is it dependent on times and seasons; we can not be very happy at some distant day, by being very miserable, now. Joy comes in batches—sometimes, in specks, which we should make the most of while they last. It is like a scant shower of gold dust, scattered through our lives—not to make them all happy, but to relieve them of their heaviness and sorrow.

Oregon State Fair—Special Premiums.

The Willamette Farmer gives a full list of the special premiums offered by public spirited individuals in that State, to various meritorious exhibits which may be made at the approaching State fair. These premiums, to which we have before made brief reference, are voluntary offerings of the individuals, and entirely outside of the regular premiums offered by the State Agricultural Society, and generally for purposes not mentioned in the regular premium list. There are fifteen different individuals thus offering, the total aggregate of the premiums being \$590. Most of the individuals offer several premiums. The matters to be competed for are well chosen, though several are quite novel—one, by F. R. Hill, of Wilbur, being \$20 to the youth under 20 years of age whose habits have been never to allow the sun to find him either asleep or in bed for the last twelve months. He must also show that he has not allowed himself to loiter away much time around stores or groceries. Another individual, Simeon Francis, of Portland offers five different premiums to be competed for by girls under 15 years of age, in the making of calico dresses—the premiums to be awarded for the five dresses which shall excel in excellence of workmanship—each dress to be cut and made by the exhibitor. C. E. DuBois, Portland, offers \$100 to the lady who exhibits the best three loaves of bread at three separate bakings, and which will state upon honor that her father, husband or brother has not complained of missing buttons on Sabbath morning for the past year. John Minto, Salem, a first-class pair of Merino lambs to the youth under 21, who will write the best essay on the different breeds of sheep and the best methods of the general management of flocks, etc.

We would copy the list entire, if it did not occupy too much space; but we append the name and residence of each donor—as an encouragement for some of our California citizens to go and do likewise. Omitting the four already mentioned, the list is as follows: Messrs. Breynton Bros., Salem, \$45; Dr. Chance, Salem, \$25; Knapp, Burrell & Co., Portland, sundry farming implements—value not stated; S. J. McCormick, Portland, \$50; J. B. Congio, Portland, \$65; John W. Cullen, Portland, \$30; Isaac Barners, Portland, goods, value not stated; Dr. J. C. Hawthorne, \$50; Joseph Buchtel, Portland, \$50; Dr. A. M. Loryca, Portland, \$50; Sherlock & Bacon, Portland, \$35. The most of the premiums are in some substantial and useful article, the value of which is given in dollars and cents.

Reclaiming Marsh Lands.

The Haywood Advocate furnishes some interesting facts upon the subject of marsh land reclamation, from which we learn that about a year ago, Mr. Pierce Wiggins, came down from the mountains, and purchased from N. L. Hastings a tract of salt land, between Alvarado and Union City, upon which he bored an artesian well, and erected a fish nursery. The well furnishes the water for his nursery, and at the same time, is available for the overflow of the surrounding marsh.

Mr. W. early adopted the theory that salt marsh could be easily reclaimed, and that when reclaimed it would be the most productive land in the world. He immediately put his land in process of reclamation, and to-day he has growing upon it wheat and rye, and a variety of vegetables, all of which look healthy.

We also learn from another source that a gang of Chinamen has been at work of late, constructing a dyke around the large tract of marsh land on the Alameda side of the San Antonio Creek. There are immense quantities of this description of land around the bays about San Francisco, which will eventually be changed from their present unsightly appearance and worthless condition, to one of pleasurable prospect and great economic value.

BAY DISTRICT FAIR.

Award of Premiums on Live Stock—The Tournament Prizes.

CLASS I—Thoroughbred Horses.

The Committee to whom was referred the duty of the examination of Thoroughbred Horses, submitted a report that the horse "Monday," owned by Colonel A. Maillard, of San Rafael, not having been entered in accordance with the rules of the Association, in the class of Thoroughbred Horses, in time to compete for a premium, and being eminently worthy of the highest consideration, the Committee recommend a special premium to be awarded said horse.

The Association awarded to the horse "Monday" a piece of plate of the value of \$100.

The following premiums were also conferred: STALLIONS.—Best three years old and over, on "Iron Clad," John Hall, of Alameda, \$60. Best two years old and over, on "No Name," George Treat, \$40. Best one year old, on "Alec," John Hall, of Alameda, \$30. Best colt under one year, on "No Name," John Hall, \$20.

MARES.—Best four years old and over, with colt, on "Peggy Ringgold," John Hall, \$50. Best three years old and over, on "Peggy Ringgold," J. Hall, \$30. Best two years old, on "Able," J. Hall, \$30. Best one year old, on "Alicia," John Cumming, Twelve-Mile Farm, \$20.

FAMILIES.—Best thoroughbred dam, with not less than four of her colts, all thoroughbred, on "Peggy Ringgold," John Hall, \$60. Best dam, other than thoroughbred, with not less than three of her colts, on "Ashcat," S. B. Whipple, \$50.

CLASS II—Horses of all Work.

STALLIONS.—Best four years old and over, on "Scottish Chief," M. Thomas, Gilroy, \$40. Best three years old, on "Don Juan," M. L. Britton, Redwood City, \$30. Best two years old, on "Prince," John Scott, Contra Costa, \$20. Best one year old, on "Allen," S. B. Whipple, \$15.

MARES.—Best four years old and over, with colt, on "Kate Leslie," M. L. Britton, \$40. Best three years old and over, on "Kate," M. Nickerson, San Jose, \$25. Best two years old and over, on "Ada Whipple," S. B. Whipple, \$20. Best one year old, on "Maggie," Augustine Guerrero, San Mateo, \$15.

CLASS III—Graded Horses.

STALLIONS.—Best three years old and over, on "Henry Williamson," David Barry, Oakland, \$50. Best one year old, on "Tribulation," S. B. Whipple, \$20. Best colt under one year, with reference to sex, on "Young Venture," Charles H. Cushing, \$20.

MARES.—Best four years old and over, with colt, on "Jessie," and colt, C. H. Cushing, \$50. Best three years old and over, on "Gazelle," John Cumming, \$30. Best two years old, on "Dot," S. B. Whipple, \$20. Best one year old, on "Lizzie," M. L. Britton, \$10.

CLASS IV—Draft Horses.

STALLIONS.—Best three years old and over, on "Ottawa Chief," John Dardas, of Petaluma, \$10. Best two years old, on "Grant," Dougherty & Martin, of Alameda county, \$30. Best one year old, on "Pool," M. L. Britton, Redwood City, \$20.

MARES.—Best three years old and over, on "Queen," M. L. Britton, \$25. Best two years old, on "Princess," A. Wilsey, of Petaluma, \$20. Best one year old, on "Gypsy," Britton, of Redwood, \$15.

CLASS V—Roadsters.

STALLIONS.—Best four years old and over, on "California Dexter," S. B. Whipple, \$50. Best three years old, on "Terminis," Walter Smith, of Oakland, \$40. Best gelding four years old and over, on "Danger," John M. Dickenson, \$40.

MARES.—Best four years old and over, on "Lady Blanchard," S. B. Whipple, \$40. Best three years old, on "Peg Woffington," Ed. Norton, of San Francisco, \$30.

CLASS VI—Carriage Horses.

Best matched span carriage horses, owned and used as such by one person, on "John and Fannie," J. B. Haggin, special premium, silver goblet, worth \$40.

On "Jim and Joe," William Paul, 1st prize, silver goblet, worth \$40.

CLASS VII—Roadster Teams.

Best double team roadsters, owned and used as such by one person, on "Onward and Traveler," H. W. Seale, silver goblet, worth \$60.

On "Alec and Mose," Crittenden & Dalton, 2d prize, silver goblet, worth \$40.

CLASS VIII—Saddle Horses.

Best Saddle horse, on "Brunette," John Cumming, fine bridle, worth \$20.

CLASS IX—Colts.

Best exhibit of not less than six colts, owned by one person, of any age or sex, S. B. Whipple, \$50.

CLASS X—Sweepstakes.

Best stallion of any age, on "Speculation," S. B. Whipple, silver pitcher, worth \$150.

Best mare of any age, on "Harvest Queen," silver pitcher, worth \$100.

CATTLE.

CLASS I—Durham Cattle.

BULLS.—Best four year old and over, on "Glencoe," C. Younger, \$50. Best three year old and over, on "Johnny Dean," S. B. Whipple, \$30.

Best two year old and over, on "Water Prince," R. Ashburner, of San Mateo, \$25. Best one year old and over, on "Butter Cup," Charles H. Cushing, \$20. Best bull calf, fourth, on "Grand Turk of Oak Home," W. L. Overhiser, \$15.

Cows.—Best four year old and over, sixth, on "Cowslip," H. W. Seale, \$10. Best three year old and over, on "Lady of the Lake," C. Younger, \$30. Best two year old and over, on "Bertha," J. B. Redmond, \$20. Best one year old and over, on "Lady Belle," C. Younger, \$15. Best heifer calf, on "Helen," C. Younger, \$10.

DEVON CATTLE.—Best bull four years old, on "Bloomfield," J. R. Rose, \$50. Best bull three years old and over, on "Victory," Seneca Daniels, of Lakeville, \$30. Best cow three years old and over, on "Lassie," S. Daniels, \$30. Devon bull one year old, on "Red Jacket," J. R. Rose, \$20. Devon bull under one year, on "Rover," J. R. Rose, \$15. Devon bull four years old, on "Prince," John Parrott, San Francisco, \$10. Devon cow one year old, on "Nellie," J. R. Rose, \$15. Devon heifer calf, on "Jennie," J. R. Rose, \$10. Graded heifer calf, on "Flora," J. Ashburner, San Mateo, \$10.

ALDERNEY CATTLE.—Best bull three years old and over, on "Prince Albert," C. B. Polhemus, \$10. Best cow three years old and over, on "Fannie," W. H. L. Barnes, \$30.

HOLSTEIN CATTLE.—Best bull three years old and over, on "Opferdoes," S. B. Emerson, \$40; Best cow three years old and over, on "Opferdoes," eighth, S. B. Emerson, \$30.

CLASS II—Graded Cattle.

BULLS.—Bull calf, on "Butte Dale," William Quinn, of San Jose, \$10.

Cows.—Best three years old and over, on "Luna," William Quinn, \$25. Best two years old and over, on "Charmer," R. Ashburner, \$20. Best one year old, full-blooded, on "Annie Lane," Charles Clark, \$15. Best herd of cattle of any one breed, not less than ten, owned by one person, C. Younger, of San Jose, \$75. On fat bullock, twin steer, W. Hall, premium, silver cup.

CLASS III—Sweepstakes.

Best bull of any age or stock, silver pitcher worth \$75 on "Lotta Rooth," J. B. Redmond. Best cow of any age or stock, silver pitcher worth \$50, on "Rosette," W. L. Overhiser.

SHEEP AND GOATS.

CLASS I—Fine Wool Sheep.

SPANISH MERINO.—Best Ram two years old, and over \$30, Smith, Overhiser & Patterson. Best three ram lambs, \$20, Smith, Overhiser & Patterson. Best three ewes, two years old and over, \$20, Smith, Overhiser & Patterson. Best five ewe lambs, \$20, Smith, Overhiser & Patterson.

SILESIA SHEEP.—Best ram two years old and over, \$30, Major Robert Beck. Best ewe two years old and over, \$30, Major Robert Beck.

CLASS II—Slock Sheep and Mutton.

Best ram two years old and over, \$20, P. Saxe, Sacramento. Best ram two years, \$15, P. Saxe, Sacramento.

COTSWOLD.—Best ram two years old and over, \$30, P. Saxe, Sacramento.

CLASS III—Sweepstakes on Sheep.

Best buck of any age or breed, silver goblet worth \$30, Smith, Overhiser & Patterson. Best ewe of any age or breed, silver goblet worth \$25, S. B. Emerson.

Pigs.—Essex pig four months, on one boar and two sows, Charles H. Cushing, \$5. Chester Whites four months, on one boar and two sows, Thomas Finley, San Francisco, \$5.

Tournament Prizes.

The President next announced the prizes for the contestants in the tournament as follows:

First prize.—C. S. Crittenden, eleven rings, a gold watch. Mr. Crittenden donated his prize to Mr. Cady (a cripple), who represented Santa Anna. Second prize.—Frank Burke and Cady, a tie, each having ten rings. Third prize.—Master A. L. Harris, W. H. Sheer, Master George Reed, Nathan Smith, and T. McCue, each nine rings. Fourth prize.—E. Nathan, Master Frank Covey, J. N. Killip, B. E. Harris each eight rings.

It was announced that those having ties must adjust among themselves how the prizes shall be awarded.

PREACHING IN THE GROVE.—Rev. Chas. G. Ames, pastor of Unity (independent) church, San José, who is about visiting the Eastern States to fulfill a four month's engagement with a "Lecturing Bureau," has announced his farewell and Sabbath-school services to be held next Sunday, in Cook's grove, on the Alameda, near Santa Clara. Children and adults are requested to bring their lunch baskets to this out-of-doors meeting.

MORE SECOND CROPS.—About 2,000 acres of land on Sherman Island, from which a crop of grain was harvested in June, was immediately flooded, allowed to settle for two weeks, then plowed and harrowed for a volunteer crop of hay which will be cut about the 20th of October.

A SUCCESSFUL SCHOOL.—Some four months since we mentioned the fact that Mr. J. R. Thomas, late President of the Vacaville College, had been solicited by a number of his friends and of the friends of education to conduct a school at Ukiah City, in Mendocino county. We are now pleased to state that the school has proved a great success. It was opened in April last with 196 pupils, which number has gradually increased until it now numbers 220. Dr. Thomas, we may add, is one of the most successful teachers on the Pacific coast. The accommodations for this school consist of a large, commodious brick building, well fitted up, and located in one of the most delightful mountain towns in the State. The climate is delightful, and the scenery, without being grand is very picturesque and attractive. Dr. Thomas will be recollected by the earlier subscribers of the RURAL PRESS as the author of a very interesting and instructive series of articles on the subject of "Ancient Agriculture." We are pleased to state that he has promised to furnish other contributions for the columns of the PRESS, at an early day.

SANTA CLARA VALLEY AGRICULTURAL FAIR.—This Fair commenced at San José last Monday and will close to-day. The exhibition is good both at the Pavilion and at the stock ground. The Society is in a prosperous condition. We have a full report up to Thursday morning, but for want space are compelled to defer publication until next issue.

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Industrial Fairs for 1871.

CALIFORNIA.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continues six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarks County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

COLORADO.

The Colorado Agricultural Annual Fair, at Denver City, commences September 12th, and continues five days.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Aug. 31st.

FLOUR—The export demand has materially fallen off in consequence of the higher figures which the millers have been obliged to demand, by reason of the advance in wheat. The present rates are the highest which this business will allow, and these figures can be continued only so long as a brisk market exists for the bran and other mill offal at a high price, such as is now sustained by reason of the scarcity of hay and distillery refuse. The sales reported include about 6,000 bbls. Cal. extra; 3,000 do Oregon extra and 2,000 Cal. superfine, all at current rates, which are considerably in advance of our last weeks figures. We quote as follows:

Superfine, \$6.25@6.50; extra, in sacks, \$6.87@7.00. Standard Oregon brands, extra, may be quoted \$6.50@7.00.

A sale of 350 bbls. Salem (Oregon) extra was made yesterday at agents rates—private.

WHEAT—The market has been very much excited during the week, culminating on Monday, after eight or ten thousand sacks had been sold, at from \$2.45@2.50; was irregular on Tuesday, but settled into comparative quiet and tone on Wednesday, when it was found that the local millers, were taking freely at \$2.35@2.40.

The receipts have been quite limited during the week. Sales have aggregated about 30,000 sks. fair to choice at \$2.25@2.50. At the close we quote shipping at \$2.35 and milling at \$2.35@2.42½.

The Liverpool market comes through at 12s. per cental—an advance of 3d. since our last summary.

Exporters say they cannot pay over \$2.35, while millers are willing to pay \$2.40@2.45 for good to choice—an advance of 20c. over last weeks figures.

This improved condition of the grain market for the past week has been due to the unfavorable accounts from the English and European crops. The latest reports are unexpectedly reverse. They state that the English harvest will be three weeks later than last year. The crop reports from Southern Russia are to the effect that the extreme temperature which had prevailed had injured the growing wheat—that the Ghrka wheats which were on the ground had been so shrivelled by the heat as to diminish the yield largely—according to some estimates to a quarter of the crop. Less favorable reports from Taganrog were also received. These sections of Russia come much in competition with American wheat.

In addition to the above unfavorable reports of the leading cereal production, we also hear that serious apprehensions are felt about the result of the potato crop in the British Isles, Belgium, Holland and Germany.

THE EXPORT MOVEMENT OF WHEAT

For the present season, thus far, has been slow; only one vessel was got off in July against 14 for the same month last year. Up to the 27th of August only 6 vessels were dispatched against 11 for the same term year—leaving on Saturday last 18 cargoes behind the same date in August 1870, while at the same time we had but 5 vessels engaged for wheat against 10 on the corresponding date. It is also remarkable that this year there were no exports of wheat from this port in May or June, the first omission of the kind for several years.

BARLEY—The receipts have been more free and in view of good crop yield the price has declined. There has been a fair demand for new at current rates. Sales have aggregated about 15,000 sacks—mostly new, at \$1.77@2.00. At the close we quote new at \$1.77@1.85, and old at \$1.95@1.97½. We note one sale of 1,000 sacks choice old brewing at \$2.00.

OATS—Have met with a slight decline under more free receipts. Sales of 5,000 sacks are re-

ported at from \$1.80@1.90 from fair to choice, which is a fair quotation at the close.

CORN—The market has slightly declined under the influence of promising crops. We quote at \$2.35@2.45.

CORNMEAL—Is quotable at \$2.50@3.00, according to quality.

BUCKWHEAT—Still nominal at \$3.50

RYE—In liberal supply at \$1.85@2.00.

STRAW—Quotable at \$8@9 by the cargo.

BRAN—The millers have advanced the price to \$27.50—an improvement of about \$2.50 on the ton.

MIDDLINGS—For feed are now selling at \$37.50 and \$40 for fine—an advance.

OIL CAKE MEAL—Is quotable at \$40 from the mill, and in good demand.

HAY—Seven parcels were sold yesterday at prices ranging from \$17@23; 18 tons very poor sold at \$17; 20 tons ordinary tame Oat, \$19; 30 do. fair Barley, \$16; 22 do good Oat and Wheat \$20. A quantity of choice wheat at the San Jose depot brought \$23 ½ ton.

HONEY—We quote Los Angeles comb 12@13c, strained, 20c@24. Potter's in 2-lb cans. \$4.50 per doz.

POTATOES—The receipts continue free, with declining rates.—400 sks. Mission for export, private; quotable at 60@80c. The China steamer will take about 1,200 bxs. Sale of 200 sks. Half-Moon Bay, 75c; quotable at \$75@90.

SWEET POTATOES—Are sold at \$1.50, at which figures there is a demand for shipment to Oregon.

HOPS—Are more sought after; Eastern buyers are purchasing all the old they can find, and are bidding high for the new crop.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9c. Sales during the week 1,790 Cal. dry, and 1,490 salted.

WOOL—Receipts are light. Speculators are seeking for the fall clip, paying liberal prices. It is said that several eastern manufacturers have gone to Australia, with a view of purchasing wool liberally, if prices permit. Other parties will soon take their departure, for a like purpose, and with the further view of making San Francisco an important depot for the sale of Australian wool. Sales, since our last review, approximate 80,000 lbs. We quote fall clip, good to choice shipping grades, at 30@32½c, and burry to slightly burry, 25@26c ½ lb. At Boston, the stocks of spring California are much reduced.

TALLOW—The extremes may be quoted from 9½@10c, with demand in excess of supply.

SEEDS—Flax 3@3½c, Canary, 8c, Alfalfa, 16c, Mustard 4@5½c. Receipts of the latter are very light.

PROVISIONS—California Bacon 14½@15c; Oregon, 15@15½c; Chicago 14@14½c; Cal. Hams 14½@15c; Oregon do, 14½@15c; California Sugar-cured Hams, 16@18c; Oregon do, 16@18c; Eastern do, 19@20c; California Smoked Beef, 13@14c.

BEANS—Are selling at the following rates: small White and Pea, 2@2½c; small Butter 2@2½c; large do, 2½@2¾c; Pink 1½c; Bayo, 2½@3c ½ lb. The stock is unusually large for the season—the bulk of which is of last year's crop, and purchased at rates above present prices.

ONIONS—We quote red and yellow 60@90c. Garlic 85c.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Pecan, 23@25c ½ lb., walnuts, 12@15c, Hickory, 12c; Brazil, 16.

FRUIT.

| | | |
|-----------------------------------|---------|-----------|
| Tahitian Oranges..... | \$25 00 | @ \$30 00 |
| Limes, 1,000..... | 10 00 | @ 15 00 |
| Australian Lemons, 100..... | 5 00 | @ 10 00 |
| Sicily do, 100..... | 10 00 | @ 14 00 |
| Bananas, 100..... | 1 50 | @ 2 50 |
| Cocoanuts, 100..... | 8 00 | @ 10 00 |
| Apples, 100..... | 30 00 | @ 1 00 |
| Pears, cooking..... | 50 00 | @ 60 00 |
| Bartlett do..... | 75 00 | @ 1 25 |
| Seckel do..... | 1 00 | @ 2 50 |
| Peaches, 100..... | 50 00 | @ 1 25 |
| Choice Mountain do..... | 4 00 | @ 5 00 |
| Quinces, 100..... | 50 00 | @ 1 00 |
| Raspberries, 100..... | 12 ½ | @ 15 00 |
| Strawberries, 100..... | 7 00 | @ 9 00 |
| Plums, 100..... | 1 00 | @ 3 00 |
| Prunes, 100..... | 3 00 | @ 6 00 |
| Blackberries, 100..... | 4 00 | @ 6 00 |
| Figs, 100..... | 7 00 | @ 8 00 |
| Grapes, Sweetwater, 100..... | 2 00 | @ 3 00 |
| Mission do, 100..... | 1 ½ | @ 2 00 |
| Rose of Peru do, 100..... | 2 00 | @ 4 00 |
| Black Hamburg do, 100..... | 4 00 | @ 10 00 |
| Muscad of Alexandria do, 100..... | 3 00 | @ 10 00 |
| Flame Tokay do, 100..... | 6 00 | @ 8 00 |
| Isabella do, 100..... | 3 00 | @ 4 00 |

DRIED FRUIT.

| | | |
|---------------------|-------|---------|
| Apples, 100..... | 10 00 | @ 11 00 |
| Peaches, 100..... | 10 00 | @ 12 ½ |
| Apricots, 100..... | 10 00 | @ 12 ½ |
| Plums, 100..... | 6 00 | @ 8 00 |
| Pitted do, 100..... | 22 ½ | @ 25 00 |

VEGETABLES.

| | | |
|--------------------------------|-------|---------|
| Cabbage, 100..... | ¾ | @ 1 ½ |
| Garlic, 100..... | 1 ½ | @ 1 ½ |
| String Beans, 100..... | 1 00 | @ 1 ½ |
| Summer Squash, 100..... | 1 25 | @ 1 50 |
| Tomatoes, River, 100..... | 25 00 | @ 35 00 |
| Bay do, 100..... | 50 00 | @ 75 00 |
| Cucumbers, 100..... | 1 00 | @ 1 25 |
| Orcon Corn, 100..... | 10 00 | @ 18 00 |
| Watermelons, each..... | 4 00 | @ 9 00 |
| Cantaloupes, 100..... | 30 00 | @ 1 00 |
| Lima Beans, 100..... | 1 ½ | @ 2 00 |
| Marrowfat Squash, per ton..... | 6 00 | @ 8 00 |

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 9@10c ½ lb. Do 2d quality 7@8c ½ lb. Do 3d do 5@6c ½ lb.

VEAL—Extremes, 8@10c.

MUTTON—7c ½ lb.

LAMB—May be quoted at from 8@9c ½ lb.

PORK—Undressed is quotable at 5½@6¼c. dressed, 8½@9¾c.

POULTRY—Live Turkeys, 18@20c ½ lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$3.50@4.00; Ducks, \$5.00@5.60 per doz. Geese, 12½@15 ½ dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 35@38c; California firkin butter, 25@32c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10 @14c, Eastern, 12½@14½c.

EGGS—California fresh, 42½@43. **LARD**—California Lard, 11-lb tins, 14@15c; Oregon in bbls. 14½c; Eastern do. 13 @14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

TABLE OF MISCELLANEOUS.

| | | |
|--------------------------|-------|----------|
| Sugar, crush'd, 100..... | 14 ½ | @ 15 00 |
| Hemp Seed, 100..... | 7 00 | @ 9 00 |
| Castor Beans, 100..... | 4 00 | @ 4 ½ |
| Cos. R. B. 150..... | 15 00 | @ 16 00 |
| Rio, do..... | 16 00 | @ 17 00 |
| Tea, Japan, 100..... | 50 00 | @ 90 00 |
| Green, do..... | 50 00 | @ 100 00 |
| Rice, 100..... | 8 ½ | @ 9 00 |
| China, do..... | 6 00 | @ 7 ½ |
| Coal Oil, 100..... | 50 00 | @ 60 00 |
| Candles, 100..... | 15 00 | @ 18 00 |

San Francisco Retail Market Rates.

FRIDAY, September 1, 1871

| | | |
|--------------------------|-------|---------|
| Butter, Cal fr. 100..... | 40 00 | @ 45 00 |
| Pickled, Cal. 100..... | 40 00 | @ 45 00 |
| do Oregon, 100..... | 40 00 | @ 45 00 |
| Honey, 100..... | 25 00 | @ 30 00 |
| Cheese, 100..... | 20 00 | @ 25 00 |
| Eggs, per doz..... | 45 00 | @ 50 00 |
| Lard, 100..... | 18 00 | @ 20 00 |
| Sugar, cr. 100..... | 10 00 | @ 13 00 |
| Beet, do..... | 1 00 | @ 1 20 |
| Sugar, Map, 100..... | 25 00 | @ 30 00 |
| Plums, dried, 100..... | 15 00 | @ 25 00 |
| Peaches, dried, 100..... | 15 00 | @ 25 00 |

| | | |
|-----------------------------|-------|---------|
| Codfish, dry, 100..... | 6 00 | @ 12 ½ |
| Flour, ex. 50 lb. 7.00..... | 67 25 | @ 70 00 |
| Superfine, 50 lb. 6.00..... | 67 25 | @ 70 00 |
| Med. 100 lb. 3.00..... | 67 25 | @ 70 00 |
| Wheat, 100 lbs. 2.20..... | 67 25 | @ 70 00 |
| Oats, 100 lbs. 1.90..... | 67 25 | @ 70 00 |

| | | |
|-------------------------|-------|----------|
| Pins Apples, 100..... | 5 00 | @ 9 00 |
| Bananas, 100..... | 3 00 | @ 5 00 |
| Cal. Walnuts, 100..... | 20 00 | @ 25 00 |
| Cranberries, 100..... | 75 00 | @ 100 00 |
| Apples, Early, 100..... | 50 00 | @ 75 00 |
| Red Astran, 100..... | 1 50 | @ 2 00 |
| Red June, 100..... | 2 00 | @ 2 50 |

| | | |
|-------------------------|-------|----------|
| Pears, table, 100..... | 75 00 | @ 100 00 |
| Plums, Cherry, 100..... | 6 00 | @ 12 ½ |
| Apricots, 100..... | 12 ½ | @ 15 00 |
| Moorpark, 100..... | 3 00 | @ 5 00 |
| Whites, 100..... | 2 ½ | @ 4 00 |
| Cherries, 100..... | 5 00 | @ 10 00 |
| Gooseberries, 100..... | 3 00 | @ 5 00 |
| Raspberries, 100..... | 18 00 | @ 20 00 |
| Strawberries, 100..... | 8 00 | @ 10 00 |

| | | |
|----------------------------|-------|---------|
| Blackberries, 100..... | 8 00 | @ 10 00 |
| Oranges, 100..... | 25 00 | @ 30 00 |
| Lemons, 100..... | 25 00 | @ 30 00 |
| Figs, dried, 100..... | 12 ½ | @ 15 00 |
| Asparagus, wh. 100..... | 12 ½ | @ 15 00 |
| Apricots, 100..... | 6 00 | @ 10 00 |
| Brussels sprouts, 100..... | 50 00 | @ 75 00 |

| | | |
|---------------------------|-------|---------|
| Beets, 100..... | 20 00 | @ 25 00 |
| Potatoes, 100..... | 2 00 | @ 3 00 |
| Potatoes, sweet, 100..... | 4 00 | @ 5 00 |
| Broccoli, 100..... | 1 00 | @ 2 00 |
| Cauliflower, 100..... | 1 00 | @ 2 00 |

| | | |
|-------------------------|-------|----------|
| Cabbage, 100..... | 75 00 | @ 100 00 |
| Carrots, 100..... | 10 00 | @ 15 00 |
| Celery, 100..... | 10 00 | @ 15 00 |
| Cress, 100..... | 20 00 | @ 25 00 |
| Drumsticks, 100..... | 25 00 | @ 30 00 |
| Hay, 100..... | 20 00 | @ 25 00 |
| Live Oak Wood, 100..... | 9 00 | @ 10 00 |

| | | |
|-------------------------|-------|---------|
| Barley, cwt..... | 1 75 | @ 1 85 |
| Beans, cwt..... | 2 50 | @ 3 25 |
| Potatoes, cwt..... | 10 00 | @ 12 00 |
| Hay, 100..... | 20 00 | @ 25 00 |
| Live Oak Wood, 100..... | 9 00 | @ 10 00 |

| | | |
|-------------------------|-------|---------|
| Summer Squash, 100..... | 6 00 | @ 8 00 |
| Marrowfat, 100..... | 10 00 | @ 12 00 |
| String Beans, 100..... | 6 00 | @ 8 00 |
| Dry Lima, 100..... | 6 00 | @ 8 00 |
| Spinage, 100..... | 25 00 | @ 30 00 |
| Salsify, 100..... | 12 00 | @ 15 00 |
| Turnips, 100..... | 8 00 | @ 10 00 |
| New Potatoes, 100..... | 5 00 | @ 8 00 |

| | | |
|-------------------------|-------|---------|
| Red, 100..... | 25 00 | @ 30 00 |
| Summer Squash, 100..... | 6 00 | @ 8 00 |
| Marrowfat, 100..... | 10 00 | @ 12 00 |
| String Beans, 100..... | 6 00 | @ 8 00 |
| Dry Lima, 100..... | 6 00 | @ 8 00 |
| Spinage, 100..... | 25 00 | @ 30 00 |
| Salsify, 100..... | 12 00 | @ 15 00 |
| Turnips, 100..... | 8 00 | @ 10 00 |
| New Potatoes, 100..... | 5 00 | @ 8 00 |

| | | |
|-------------------------|-------|---------|
| Red, 100..... | 25 00 | @ 30 00 |
| Summer Squash, 100..... | 6 00 | @ 8 00 |
| Marrowfat, 100..... | 10 00 | @ 12 00 |
| String Beans, 100..... | 6 00 | @ 8 00 |
| Dry Lima, 100..... | 6 00 | @ 8 00 |
| Spinage, 100..... | 25 00 | @ 30 00 |
| Salsify, 100..... | 12 00 | @ 15 00 |
| Turnips, 100..... | 8 00 | @ 10 00 |
| New Potatoes, 100..... | 5 00 | @ 8 00 |

| | | |
|-------------------------|-------|---------|
| Red, 100..... | 25 00 | @ 30 00 |
| Summer Squash, 100..... | 6 00 | @ 8 00 |
| Marrowfat, 100..... | 10 00 | @ 12 00 |
| String Beans, 100..... | 6 00 | @ 8 00 |
| Dry Lima, 100..... | 6 00 | @ 8 00 |
| Spinage, 100..... | 25 00 | @ 30 00 |
| Salsify, 100..... | 12 00 | @ 15 00 |
| Turnips, 100..... | 8 00 | @ 10 00 |
| New Potatoes, 100..... | 5 00 | @ 8 00 |

| | | | | | | | |
|--------------------|----|----|-------------------|------------------|----|---|----|
| Brussel's sprts, * | @ | 15 | String Beans, lb. | 6 | @ | 8 | |
| Beets, 7 doz..... | 20 | @ | 25 | Dry Lima, shl... | 6 | @ | 8 |
| Potatoes, 7 lb... | 2 | @ | 3 | Spinage, 7 bskt. | 25 | @ | 50 |
| | | | | | | | |

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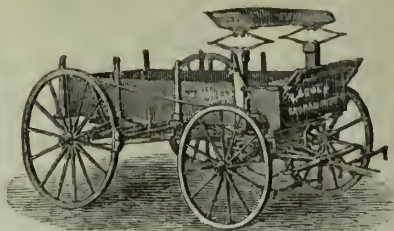


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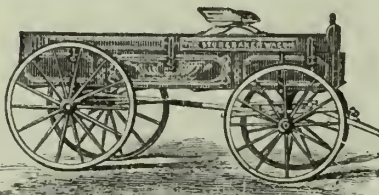
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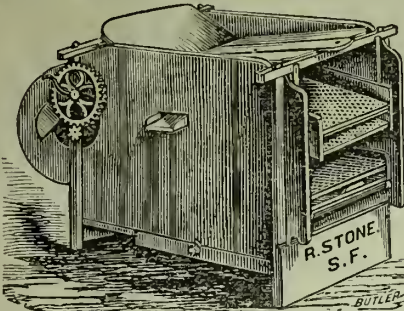
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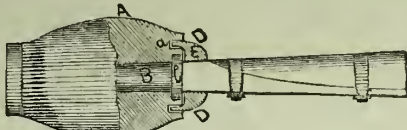
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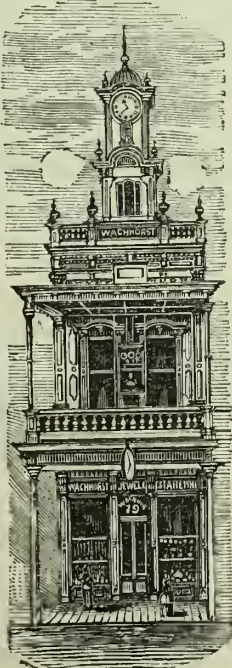
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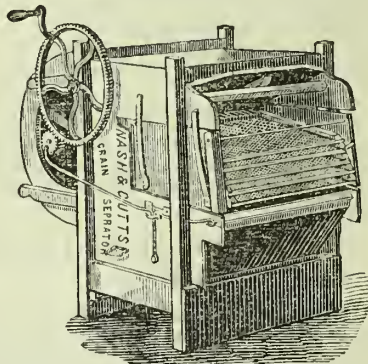
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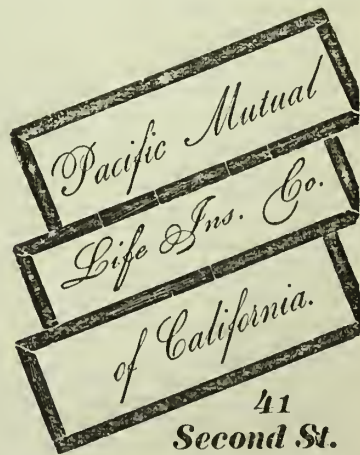
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To accomplish this we have concluded to print (perhaps weekly) during the Fair season, many extra papers as fair sample copies of the **PRESS** for gratuitous and judicious circulation amongst the very best class of citizens—i. e., the steady, industrial, intelligent and producing population. By this liberal means our regular circulation will be greatly extended, and the different individuals who will receive and critically examine the paper and its entire contents will aggregate an immense number during the next three months.

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The HON. T. G. PHELPS has consented to deliver the Annual Address. The Opening Address will be delivered by the President.

By order of the Board. CHAS. F. REED, President. ROBT. BRICE, Recording Secretary. an26-4w

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PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 9, 1871.

[Number 10.]

HIGGINS' FARM GATE.

This invention, which we originally illustrate, relates to that class of gates which work automatically. By an ingenious mechanical application it is arranged so as to open and shut at pleasure, by the passage of the wheel of the vehicle over a crank in the road. These cranks are arranged so that running over them, on either side, in the direction of the gate, opens it, and by going from it the gate is closed. A system of gears, rods, chains, and pulleys, connect the cranks with a toothed wheel operating in a rack under the base of the gate, as partially shown, which moves it open or shut, according to the direction the cranks are operated. The construction of the frame may be varied according to taste, and the roadway planked or not, as desired. The machinery is light and simple, yet sufficiently strong to last for years, and is comparatively reasonable for the real convenience of its use. As a general thing, but two cranks are required, one on each side of the gate; but in the case represented by the accompanying cut, there are two cranks on one side and one on the other. In entering the gate from the road, where there is not room enough to turn and enter the gate directly facing it, a crank on each side is more convenient from the fact that an approaching vehicle would have ample room to pass over either crank, and then make the turn without cramping or other difficulty. The bed timber, with the rail on top upon which the gate slides, is firmly imbedded in the ground, and the gate, resting on it, is thereby prevented from sagging, and the guides on the rails retain it in the proper position.

High winds do not affect its working freely, and it cannot be left open except through the neglect of the driver to run the wheel over the crank opposite the one by which the gate was opened. No cattle, however vicious, can get through it; for, on closing, a spring snaps through the gate into the beam, precluding the possibility of running it back except by means of the crank or a human hand. The cranks can be placed at any distance from the gate, by means of the boxes buried in trenches through which the leading rods run, so that a team of any number of animals can pass through without the driver having to leave them.

Farmers are apt to be negligent, and we

notice bars used in many places where a good gate would be a real saving to the owner in time and money, as well as comfort, by the adoption of Mr. Higgins' device, which opens for the passage of person and team without as much as even repeating the magical saying, "open sesame." The patent for this gate has recently been allowed through our agency to Edmund Higgins, now of Vallejo.

Oxen vs. Horses.

Farms in this State are almost univer-

his generaltractiveness and docility, under heavy work, in any kind of weather and with indifferent feed. On large farms, where there is a great diversity of work, this would seem to be a matter of special consideration.

Then again, in addition to his working possibilities—unless the example of the French at Paris gives us a better relish for horse steaks and roasts than has heretofore obtained here—the ox promises a decided advantage over his more nimble associate,

MACHINERY ON THE FARM.

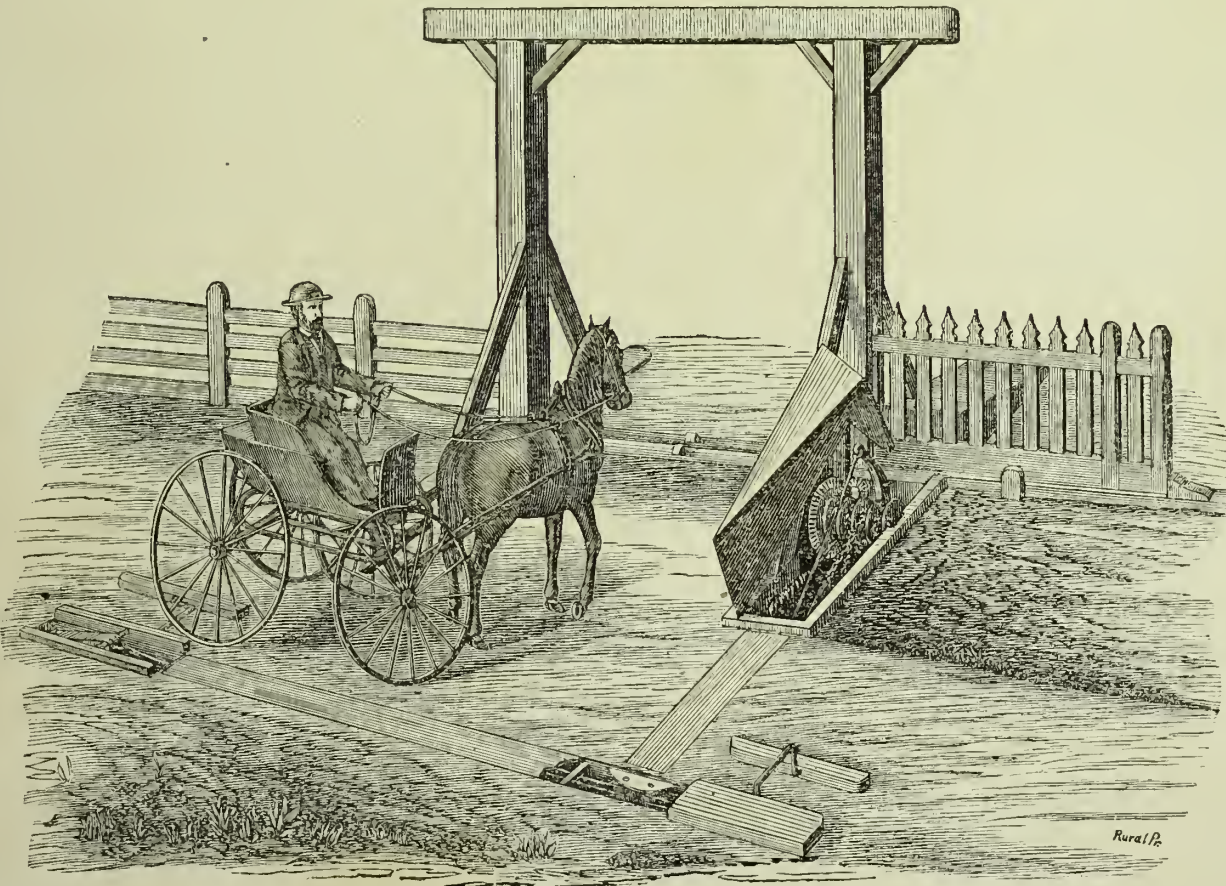
We understand that Col. Hyde, the well known inventor of the successful California Road Locomotive, has contracted to seed with wheat, this fall, 2,000 acres of reclaimed tule land in Sutter county. The novelty and most special interest connected with this contract, is the fact that the land, which has never yet been broken up, will be plowed, harrowed, sowed and covered all by one operation, or once going over the ground! The Colonel will employ his road engine as his motive power, to which will first be attached a set of gang plows, adapted to breaking up and turning tule land; following the plows will be a combined cultivator and seed sower or drill, which will prepare the ground for the seed, and sow or plant the same; following the seed sower will be harrows, which will cover the seed, and, if need be, a roller to leave the ground in the best condition for the germination of the seed.

We presume that at harvest time one of Howell & Low's famous Headers and Threshers will be employed to gather the grain, which cuts, threshes and sacks the same as it moves along through the field! Thus the whole operation of plowing, planting and harvesting may be done with only two combinations of machinery. The operation of plowing and planting will be accomplished

with a "sweep" or "round," 16 feet wide; while the harvesting and threshing will be accomplished at a cost of only one dollar per acre. Not over four men will be required to manipulate either the seeding or harvesting machines.

The machinery, in both instances, is all of California invention and manufacture, and will accomplish what no other machinery in the world has ever yet done outside of the State of California. One of the harvesters spoken of is now on exhibition at the Mechanics' Institute Pavilion in this city, and shows, by its wear, that it has seen actual service in the field.

INDUSTRIAL EXPOSITION IN MISSOURI.—We have received a complimentary ticket to the First Annual Industrial Exposition to be held at Kansas City, Mo., for which the managers will please accept our thanks. The Exposition is to continue from Oct. 16th to Oct. 23d. There are to be \$15,000 distributed in premiums at this fair, and amusements of all descriptions are to be carried on. The entries of live stock, manufactures, products, etc., are free to the world. This is expected to be the grandest exhibition of the kind ever held west of the Mississippi.



HIGGINS' SELF-OPENING AND CLOSING FARM GATE.

sally worked with horses; but the carefully noted experience of farmers in the East is that hill farms are worked most advantageously with oxen, level farms with horses. The broad, stoneless, stumpless plains of California will no doubt continue to be tilled by horses, until steam takes its place universally, as it will at some day.

In the Atlantic States, oxen are considered indispensable in clearing and breaking up timber land. The patience of that animal alone will permit the peculiar kind of labor required in the preparatory work of what is sometimes called the "stump period." Later, when the plow runs free, and the land is not too hilly, the more nimble horse is best adapted for the work required.

It is a question with many, however, if the ox is not too much set aside in this State, especially when we consider the simple and inexpensive harness which he requires, the rapidity with which he may be shifted from tongue to chain, as required in many kinds of farm work, and

as a meat producer, after his days of farm usefulness are over.

Thoroughbred and Full Blood.

These terms are often misapplied, when used as synonymous. Every thoroughbred is a full blood; but every full blood is not a thoroughbred. Thoroughbred means in and in breeding, as does full blood; but the former means something more than that:—it means in and in among the best of an identical kind—through and through the best of the best. Full blood may be simply through and through, with the same race, without regard to selection. Hence full blood is not or may not be thoroughbred; while thoroughbred must always of necessity be full blood. Sufficient care is not observed in making this important distinction.

IN SHOWING CATTLE FOR SALE.—They will appear to better advantage when standing among other cattle. If poor in flesh they will show to best advantage if placed on sloping ground, and near a wall or close fence,

MECHANICAL PROGRESS.

To Select Building Stone.

The following instructions for the selection of building stone, are taken from the *London Builder*, and are of great interest to all who may have anything to do with such work:

In selecting a quarry from which to get the stone best suited for the purpose, great care is required. Having first satisfied yourself that stone of the size required, can be obtained, and at a reasonable price, the next and most important step of all, is to find out if it is durable stone. Too much weight must not be placed on the assurance of quarrymen that the bed which is the cheapest for them to get is the best and most durable—nor the best looking and easiest to work. It does not follow that because certain old buildings, in the neighborhood have lasted well, therefore all the quarries in the neighborhood produce the same stone.

It often occurs that a quarry on one side of a hill produces much better stone than that on the other. Specimens dressed up square, sent out by the quarryman or agent, are very dangerous things to form an opinion on, because what looks very well in small pieces is really often of an inferior quality; and a stone that would appear coarse and rough in a specimen would not do so when in the mass. Stones that rub up to a smooth face are often not so durable as those of a rougher texture.

To give an example, "best bed" Portland is much superior in color and texture to "brown bed" Portland, but far inferior to it in durability. Examine all the different beds in a quarry, noting the particular grain, texture and color of each bed, compare them with the buildings around, and if there be any old quarries near, with the face exposed, see which of the beds stand out the most, and show the old tool-marks, and consequently have yielded to the action of the weather least.

It frequently happens that the best stone is neglected, or only in part worked, from the cost of removing the rubbish with which it may be associated.

As an economical supply of stone in particular localities would sometimes appear to depend on accidental circumstances, such as the cost of quarrying, the degree of facility in transport, and the prejudice that generally exists in favor of a material which has been long in use; and as the means of transportation have of late years been greatly increased, it becomes essential to ascertain whether better materials than those which have been employed in any given place, may not be obtained from other, although more distant, localities, offering equally advantageous terms.

The relative facility with which good materials may be obtained in a district, is to a certain extent marked by the appearance of the towns and villages in it, the comparative cost of obtaining them being in general better shown by the character of the ordinary houses, than by that of the public buildings and large mansions, the stone for which may sometimes have been brought from comparatively considerable distance.

From the frequent practice, however, of selecting those stones which yield readily to the tool, and are hence commonly termed freestones, whatever may be their mineralogical characters, the most durable, and, therefore, eventually the cheapest, are far from being always employed. And it sometimes happens that we find the common cottages built of durable materials, while larger mansions and public buildings are not, the materials for the latter having been selected only because they were so readily worked up for ornamental parts, while those for the former may have been thrown aside in the same quarries because they yielded less freely to the tool.

IMPROVEMENT IN LEAD PENCILS.—Mr. Henry T. Cushman, of North Bennington, Vt., has invented an improvement in lead pencils, which consists in providing them with a coating of flock, by means of which they are less liable to be lost, and more easily handled than those now in use. The pencils are covered with glue or other adhesive liquid, and then coated with flock of any desired color. This gives the pencil a coating which causes it to adhere to cloth, and thereby prevents its sliding or slipping from the pocket. This improvement does not add to the cost of the pencil, as the rough coating may be applied as readily and as cheaply as the ordinary varnish or polish.—*Sci. Am.*

Selenitic Mortar.

For some months past, a series of careful and exhaustive experiments has been in progress at South Kensington, in order to test the value of a new kind of cement and mortar. This substance is the invention of Colonel Scott, R. E., and has been freely used in the construction of the French annexe. It has been named by Col. Scott selenitic mortar, and the process of production consists in mixing with the water used in the preparation of the mortar, a small quantity of sulphate of lime, in the form of either plaster of Paris, gypsum, or green vitriol. These substances having been intimately mixed, the lime is added and ground with the water or sulphate into a creamy paste. The mixture is prepared in the pan of an ordinary mortar mill, in which the water and sulphate are first introduced, and subsequently the lime. After the lime has been ground for three or four minutes, the sand, burnt clay, or other ingredients are added, and the whole is ground for ten minutes more. By this invention, ordinary lime can be at once converted into a species of cement mortar which sets rapidly and can be used for concrete work, or stuff for plastering at a cheaper rate than that made from lime in the ordinary way. From his experiments, Colonel Scott finds the use of sulphuric acid to give the best results, so that this substance is used in preference to plaster of Paris or gypsum, although the latter materials will answer for all practical purposes. Sufficient acid is contained in plaster of Paris to effect the necessary chemical change, and to prevent the lime from slaking, which in effect is the secret of the whole process. The lime by this means, is enabled to take twice as much sand as when slaked, its fiery nature being brought under control. Any lime can be made selenitic by Colonel Scott's process, and the more hydraulic it is, the better are the results obtained with it.—*Building News.*

New Kind of Paper Hangings.

A Liverpool paper thus describes a new kind of paper hangings, recently introduced there from Switzerland. The effect must be very fine. "The general character of the design may be styled Florentine; the ground-work is white satin; the walls are divided into compartments by styles of a rich gold color, representing, with great accuracy, carved wood of intricate design; the panels are niches with drawings of deer, lions, swans, etc., each forming a complete picture in gorgeous borders of gilded ornaments and flowers, partaking somewhat of the Louis Quatorze style; the alternate panels comprise a species of filagree work, varied with drawings of flowers and gems, in which gilding is most tastefully and sparingly introduced, the whole being of the most exquisite design and execution. An exceedingly rich border runs round the top of the room, and one of corresponding design round the bottom part. From the judicious employment of French grays and other cool colors, the effect is not in the least gaudy, but at once rich and chaste. The introduction of this paper may be regarded as a new era in decoration, and will do much to relieve us from the sameness and insipidity which pervade even our best houses."

Breakage of Watch Case Springs.

The breakage of the casespring is one of the most frequent failures which occur in hunting case watches, and is as disagreeable to the owner as to the repairer of the watch. The former has to pay a considerable amount, and the latter gets only a small profit by this repair, because he is very often obliged to put several springs in the watch before one will stand. To obviate this inconvenience, I tried to make the springs of brass instead of steel, and found that, if well hammered, this metal suits perfectly for the purpose. After this, I made all case springs in the following manner: I take a piece of brass wire, a quarter of an inch thick and two inches long, and bend an eighth of an inch, in the vice, to a right angle; then I hammer it alternately on four sides, till it gets a sparkling appearance. This is the sign of the right temper. Then I bring it to the same shape as a steel spring and make it fit in the case.

I will add, that I never saw a spring that was made in this way become weak or broken; and watch makers who will try this method will find that a brass spring is made in half the time that a steel spring is beside saving of files and other tools.—*Cor. Sci. Am.*

SCIENTIFIC PROGRESS.

TELESCOPES.—Until within a very few years a telescope of 15 inches aperture was considered enormous in size. In 1867, Mr. Alvan Clark, of Cambridge Port, Mass., made one of 20 inches aperture. This at the time was the largest refracting telescope ever constructed. Since then, however, one of 24 inches aperture has been made in England; and not to be outdone, Mr. Clark is now engaged in constructing one of 25 inches, ordered for the Government observatory at Washington. Another of the same size has been ordered for the University of Virginia.

It is a rule in constructing telescopes to make the length to correspond in feet, to the number of inches in the diameter of the aperture,—hence the two which Mr. Clark is now building will be each 25 feet in length. Their cost will be about \$100,000 each, and although such an instrument weighs several tons, it is so nicely adjusted on being placed in position, that it can be moved with a finger.

Mr. Clark is the most successful telescope maker in the world, and yet he is self taught,—never having visited a manufactory of such instruments until after he had achieved a success which the most skilled makers might well envy.

When advised by friends, in his early labors, to visit some establishment to learn the trade; he replied that he preferred to study it out. There is no doubt that the originality resulting from such "study," has been the cause of his wonderful success.

ARTIFICIAL BUTTER.—During the late siege of Paris many expedients were adopted to provide the necessities of life, and some of its luxuries. Among these the manufacture of artificial butter was quite successful, and one of the processes received the approbation of everybody, as being the best and most nearly like the real article. By that process the butter was obtained from the olive and mangarine which are yielded by pressing animal, fatty substances, in the manufacture of stearine; the oily matter thus yielded having the same composition as butter. After being separated, it is subjected to a process which brings it to a consistency of butter, and is then bleached, after which the yellow coloring is added in the form of annatto or carrot juice.

ENGRAVING BY ELECTRICITY.—The efforts which have been made from time to time, with but poor encouragement, to engrave on metals by means of electricity, seem at last to have resulted in the attainment of practical results. An ingenious French mechanic has produced an invention by which a metal plate, upon which a design is drawn with a chemical ink of some kind, is slowly rotated with its face vertical, and several other similar plates, graded in size, are also slowly rotated by appropriate mechanism. The object of the invention is to engrave on the smaller plates the design traced upon the largest, on different scales of magnitude, which is accomplished by applying a cutting point to the face of each plate, and which is pressed against it by means of an electric current whenever a blunt point, applied to the large plate, encounters the ink in which the design is traced,—the cutting points being at other times withdrawn. The point presented to the first plate is merely a "feeler," which determines by electrical agency whether the ink is beneath it or not. If it is, the points are pressed into the surface of the other plates; if not, they are withdrawn and prevented from cutting. The feeler and the bruins must, of course, all follow a spiral track. This is crude, and can be made applicable to the reproduction of certain kinds of designs only, but it is considered a long step in the direction of practical success.

MORE GIFTS TO SCIENCE.—Mrs. Susan R. Higgin, a widow whose husband had acquired his fortune in the United States, has recently presented \$25,000 to the Sheffield scientific school, at New Haven, for the endowment of a professorship of Dynamic Engineering.

THE PHILOSOPHY OF SLEEP WALKING.—A correspondent of the *Scientific American* gives the following theory to account for the habit of walking in the sleep:—"My observation has led me to believe that sleep walking is a habit of the system. I have noticed that children who are allowed to go to sleep on the floor or lounge, in the evening, and afterwards, at some regular hour, are aroused (of course only partially awakened), and sent to bed, will in time acquire the habit of sleep walking. I have no doubt that the man mentioned, who would get up and go to the cellar in the night for a drink of wine while asleep, had been in the habit of first going for it, in the night time, while awake. I presume but few have failed to notice how soon the mind, by dreams, will recognize a habit of waking at a particular hour for any purpose.

I think that the whole philosophy of sleep walking has its foundation in habit, acquired by disturbance at some regular hour devoted to sleep.

NEW LIGHT FOR THE USE OF PHOTOGRAPHERS.—Photographers have long been seeking for an artificial light, so readily available that the success of their manipulations may not be wholly dependent on the sun, and subject to the caprice of the clouds. The last attempt to find the much needed substitute is by digesting zinc in the iodide of ethyl, a process which yields a liquid substance inflammable by the mere contact of the oxygen in the air. By passing pure hydrogen (or perhaps ordinary illuminating gas,) through the fluid, the compound of zinc and ethyl will volatilize into the gas, and will yield, on combustion, a flame of extraordinary brilliancy and vivid whiteness of color.

It is said that the actinic effects of this light are inferior to those produced by the combustion of magnesium; but the steadiness of a flame from a gas jet will so far surpass any that can be obtained from a burning metal, even when the latter is of the highest purity, chemically obtained, that most photographers will doubtless give it the preference.

PURIFICATION OF FATS.—M. A. Boillet has devised a process for this purpose, which he has communicated to the French Academy. (*Comptes Rendus*, vol. 72, p. 36.) Suet, or fat of any kind, is heated for three or four hours with lime water, the proportions being about half a gallon of lime-water to 2½ lbs. of fat; it is then allowed to cool. As soon as the fat is sufficiently set, it is transferred to a linen or flannel bag, and the water and oleic acid squeezed from it by gradually increasing pressure, in a hydraulic press, or otherwise. He states that fatty matters thus treated, lose all bad smell, and acquire remarkable whiteness and hardness, after standing a few days. If re-melted in water, acidulated with sulphuric acid, acetic acid, or vinegar, a fat is obtained which, he says, is "perfectly" purified, and can be applied to all the purposes for which the best fatty substances are employed.

TO RENDER GUN COTTON SAFE.—Dr. L. Bleekrode, while recently engaged in some experiments, wherein he tried to ignite gun-cotton by the electric spark, thought to facilitate the explosion by wetting it with an inflammable liquid, such as bisulphide of carbon. To his surprise he found that it was only the bisulphide that was set on fire; and that it burned away, leaving the gun cotton intact. He repeated the experiment with ether, benzine, and alcohol, igniting the several liquids with a flame. In each case the gun-cotton remained unconsumed. Dr. Bleekrode therefore suggests that gun-cotton might be safely kept under a layer of benzine; as, if the liquid happened to be ignited, no explosion would take place, and the gun-cotton would be quickly rendered fit for use by a brief exposure to air.

IMPROVED LIQUID FOR GALVANIC BATTERIES.—Victor Barjon has devised a new battery liquid, formed by mixing a solution of bichromate of potash with a little lime, and with sulphuric acid. He puts two lbs. of bichromate of potash into a gallon of boiling water, and lets the solution cool down to 68°, and adds two ounces of lime. After stirring, he adds sulphuric acid until the gravity reaches 35° Beaumé. Then, having stirred the whole, he lets it stand for twenty-four hours, when it is ready for use.

Stains from acids can be removed by spirits of hartshorn diluted. If not removed by first application repeat the process. Afterwards rinse off with water.

THE FARM.

Agricultural Hints.

Mr. J. J. Owen, of the San José Mercury, delivered an address before the San José Farmers Club, a few days since, in which he uttered many sensible things, some of which we copy as follows:—

FARM LIFE AT THE EAST.—Every good farmer there has his workshop, and considers a certain amount of expertness in the use of tools as almost indispensable to his business. He makes his own harrows and stoue-boats, and upon a pinch can renew a broken plow beam. Although by no means what might be considered a fine workman, he nevertheless manages to save in this manner many dollars during the year, that he would otherwise be required to pay out.

Farm life in the East, as I know by pleasing experience, is full of variety and freshness. It does not bring its large incomes of worldly wealth, but it brings what is really more valuable, the sweet fruits of domestic life,—contentment and happiness,—to an extent seldom realized elsewhere, or in other pursuits. I think now, looking back down the dim vista of the past, that the happiest years of my life were those spent in the free, healthful, noble, independent pursuits of agriculture.

Farming in California.

Now, then, how much of this Eastern system, if any, can we, or ought we, engraft upon our California methods of tilling the soil? Not all, of course,—perhaps not many—for here our climate, soil, conditions and surroundings generally, are widely different from those of the East. Here, much of the experience that our farmers brought with them from their old homes goes for naught. New methods are required. In fact, the business of farming, in the main, has to be learned over again. We have to deal with a new order of seasons,—with a soil with no underlying hard pan,—with new and strange markets; all of which require much patient perseverance and earnest study, to involve the best means for the best ends.

In the East we know that diversified farming is the true system. Here, many of our farmers are not so sure of it. We are glad to know, however, that some of them who have tried it, are, and that this system is gradually but surely growing in popular favor. We know that it pays to summer-fallow for wheat there, and we believed it would also pay here, if we could find time to try it. Reason teaches us, here and everywhere, that rotation in crops is the only true method to save the soil from exhaustion. And yet, because we do not summer-fallow we cannot practice rotation. If we sow wheat after barley or oats, or *vice versa*, the product will be half and half.

In the East, the winters kill out the oats and barley, and leave nothing but the wheat. Here we can accomplish the same result by summer-fallowing, and I believe it is about time we commenced to practice it.

The more we investigate this question of California farming, the more we are impressed with the wide gulf existing between it, and the best approved methods adapted to the Eastern or Middle States. Our grasses, unlike those of the older States, are all annuals. Hence, fertilization by the clover process is out of the question. In this portion of the State, the cultivation of corn and buckwheat cannot be made profitable, and it is only upon our low bottom lands that potatoes can be grown to advantage. Hence the question of rotation is somewhat narrowed, we admit. Still, the cropping of wheat after wheat, for a series of years is an unpardonable agricultural sin, as no one will deny.

How to Improve Farming Here.

Now, then, for the remedy. And just how we think we can with profit borrow a hint from our Eastern neighbors. In the first place, we must cease making grain growing a specialty. Upon all well-worn lands we should summer-fallow for every acre of wheat we sow, and permit the land to rest at least one-half the time. We should keep more stock, and especially sheep. With a convenient market for the sale of spring lambs, mutton and wool, as we have in this valley, sheep-raising could not fail of being profitable. It is a wide reach from one harvest to another; and there are but few farmers so well fixed that they would not find it convenient to have a little money coming in between times. A hundred head of sheep upon a hundred-acre farm would no doubt pay better, one year with another, than all grain-growing.

Besides, they would help to keep the soil in a fine condition of fertility.

Again, dairying in this State has always been a profitable industry, and will be, so long as we import, as we now do, one-half of all the butter and cheese we consume. And here again we can borrow a hint from the Eastern farmer. It may seem like small business to your three hundred or five hundred acre farmer to bother with a dozen cows, and sell butter on so small a scale as that number would imply; but it would pay, nevertheless. It would meet the entire household expense of the family, and leave a respectable margin for a new dress for the wife occasionally.

Have our farmers ever considered the significance of the sign, "Eastern cured hams," that greets them from nearly every grocery store in this city? Surely we ought to make our own hams, and as good ones as they can possibly send us from the East. No better hams were ever made than those cured by the late John Hassinger, of this county. Other farmers could do as well, if they would devote a little attention to the business; and they could no doubt make money by it. Every dollar paid out in this city for Eastern hams, or the produce of Eastern dairies, should go into the pockets of the farmers of this valley.

With regard to forest culture, I believe it can be demonstrated that there is scarcely an acre of land in this valley, outside of the cities, which, if planted to the Eucalyptus, or Lombardy poplar, would not treble in value during the next five years. I have trees of the former variety that were more whips when planted, four years ago this last spring, that are now a foot in diameter at the ground.

The Ignorant and Lazy Farmer.

The man who imagines that farming is an industry that can be carried forward successfully without brains, or that it will run itself without close application and hard work, is greatly mistaken. I am aware that there are farmers, some even in this valley, who think otherwise. Such a one usually spends a large portion of his time in town. Should you visit his home you may know it by these infallible signs: He leaves his reaper, wagons, plows, harrows, and farming implements generally, unhoused, and exposed to all weathers. You will find his front gate off its hinges, his pig-pen on the north side of his house, and his door-yard grown up to mustard and tar weed. He doesn't keep a cow, and consequently he takes his coffee plain; and butter is a luxury of civilization that he dispenses with altogether. He has no orchard or garden—never finds time to plant one; and if he did, would suffer it to die out with neglect. He never keeps less than three dogs; and it is difficult to determine which he thinks the most of, his dogs or his children. His wife would have been somebody if she had had a fair chance in the world; but with such a husband what can she do, poor woman, but settle down into a chronic condition of frowsy-headed slatternliness? His business goes to loose ends; everything is slipshod about him; his wife and children are slipshod; and his own character is fearfully "down at the heel." Now that is one way to live, but it is not the true way. It is simply to vegetate, like the fungus, without beauty or fragrance. It is farming without brains.

The Intelligent, Industrious Farmer.

On the other hand, the true farmer makes his business a life study. He is never too old to learn. He is ever studying out the best methods, in all the varied branches of his calling. He profits by the experience of his neighbors, and as freely gives to them of his own experience in return. He takes the best agricultural journals. His library is well supplied with works on agriculture, horticulture, stock-raising, and kindred subjects. He studies up the chemistry of his soil—its productive capacity—the best methods of irrigation, fertilization and tillage. He experiments with grain, grasses and vegetables. He builds him a comfortable home, with pleasant surroundings, and enjoys much of the sunshine of life. He drives a good pair of horses, is a member of the Farmers' Club; and you may know him by his honest face, his good "horse sense," and the hearty grasp of his hard brown hand.

MIXED FARMING.—The Farmers' Herald, (Chester, England,) says:—Mixed husbandry is needful to realize the full amount of profit which the farm properly managed will yield. Every year the price of farm products varies—some will be high, and some will be low, and thus the farmer catches good prices for a part, if not all, whereas, if he is wholly dependent upon one kind of crop, he may be wholly disappointed.

THE HORSEMAN.

ORIGIN AND HISTORY OF THE PERCHERON NORMAN HORSE.

EDITORS PRESS.—Believing that the knowledge of this valuable race of horses, and still more of its existence in the United States, is confined to a small number of persons, I have thought it would be not uninteresting to your agricultural readers to give a brief account of the animal.

Le Perche, from which the animal derives its name, is a district in that portion of France which was formerly known as Normandy, and in which the breed of the Norman horses has been most highly cultivated, and where it exists in its most perfect form and most improved condition. By some means, somewhat anomalous and at variance with the general experience and principles of breeding, this breed, which must in its origin have been a cross, has in the process of many ages become a family, perfect in itself, capable of transmitting its qualities and reproducing itself, like to like, without any loss of energy or characteristics by breeding together mares and stallions of the same race.

The remarkable purity of the race, says Herbert, is attested by the certainty with which the stallions transmit to their progeny, begotten on mares of a different race, their own characteristics, and the high degree in which the offspring of the mare, bred to horses of superior class, retain the better qualities of their dams. For it appears to be a certain rule in breeding, that the purer the blood, and the higher the vital energy and vigor of either parent, in the greater degree does that parent transmit its properties to the young; although the certain transmissions of the larger portions of those energies is always on the stallions side, and it is only in the longer retention of an inferior proportion of her qualities by the progeny, that the better blood of the dam can be traced when bred to an inferior sire. When bred to a purer blooded stallion than herself, the more pure blood the mare herself has, the more strongly will her own marks descend to her progeny, and the less will they be altered or modified by those of the sire.

Now, the Percheron Normans are clearly a pure race *per se*; we do not mean by the words, a thorough-bred race, but a race capable of producing and reproducing themselves *ad infinitum*, unaltered, and without deterioration of qualities, by breeding like sires to like dams, without infusion of any other blood, just as is done by Durham, Ayrshire, or Alderney cattle, by setters, pointers, greyhounds, and, in a word, by any and all animals of distinct and perfect varieties of the same species.

The only remarkable thing in this case is, that such should be the fact, under the circumstances of the Percheron Normans being originally—as they are beyond a doubt—the product of a cross, although a most remote cross in point of time.

The original Norman horse, now nearly extinct, which was the war-horse of the iron-clad chivalry of the earliest ages of William the Conqueror, and Richard Cœur de Lion, is thus accurately described by the importer of the Percherons into New Jersey, Mr. Edward Harris. They average, he says, (and we are personally cognizant of his accuracy), full sixteen hands in height, with head short and thick; wide between the eyes; jaws heavy; ears short and pointed, well forward; neck very short and thick; mane heavy; shoulders well inclined backward; back extremely short; rump steep; quarters very broad; chest wide and deep; tendons large; muscles excessively developed; legs short, particularly from the knee and hock to the fetlock, and thence to the coronet. It was soon found, even while complete armor was in use, that these enormous, bony Normans, which are still, though deteriorated, the ordinary, heavy draught horses of France, had not sufficient speed to render the cavalry charge effective, or sufficient blood to give spirit adequate to the endurance of long-continued toil.

At the same time the Andalusian horse, which in its highest form, was a pure barb of Morocco, imported into Spain by the Saracen Moors under Tarik, who has left

his name to the rock of Gibraltar, and in its secondary form, a half-bred horse, between the African barbs and the old Spanish horse, which had long before received a large tincture of oriental blood from the Numidian chargers of the Carthaginians, who so long occupied that country, proved, in its unmixed state, too light for the enormous weight of a caparisoned man-at-arms, or, if occasionally equal to that, too costly to be within the means of any but crowned heads.

The bone and musculo, and much of the form of the Percheron, come from the horse first described—the old Norman war-horse; and while he gets his spirit action from the Andalusian, docility comes from both sides.

On the expulsion of the Spaniards from the Northern Provinces, the supply of Arabian stallions was cut off, and, since that time, in the Perche district of Normandy, their progress has doubtless been bred in and in; hence the remarkable uniformity of the breed, and the disposition to impart their form to their progeny.

A. WILSEY.

Horse Work.

At a meeting of the British Association at Dublin, Mr. Charles Bianconi, of Caspel, read a paper relative to his extensive car establishment, after which a gentleman stating that at Pickford's, the great English carrier's they could not work a horse more than ten miles a day, wished to hear Mr. Bianconi's opinion on the subject. Mr. B. stated he found by experience he could better work horses eight miles a day for six days in the week, than six miles for seven days. By not working on Sunday, he effected a saving of 12 per cent. Mr. Bianconi's opinion on this point is of the highest importance, for he has over 900 horses working sixty-seven conveyances, which daily travel 4,244 miles. It is the result of forty-three years' experience.

HOW TO BREAK COLTS TO LEAD.—The Western Rural gives the following hints for breaking colts to lead. "Take a piece of common rope, six or eight feet long; make a noose on one end large enough to slip easily into the colt's mouth. Then take the other end and pass it over his neck, through the noose on the under side of the mouth, and you are ready to begin operations. Step around to one side of the animal, a few feet away, and command him to move; at the same time give a sudden pull on the halter. Continue in this manner, giving a sudden pull sideways, but never forward, every time the colt refuses to move, and gently pat him on the neck when he obeys. By this method a colt may generally be broken to lead in a couple of hours; after this any kind of halter can be used. A colt broken in this manner will not learn to pull back on the halter, as many do, when the method of pulling forward on the halter and beating to make them lead, is resorted to, as is often the case."

HOW TO DRIVE A YOUNG HORSE.—We find the following floating, and do not know its paternity, but it is good advice: "In teaching a young horse to drive well, do not hurry to see how fast he will trot. Keep each pace clear and distinct from the other; that is, in walking make him walk, and do not allow him to trot. While trotting be equally careful that he keeps steady at his pace, and do not allow him to slack into a walk. The reins, while driving, should be kept snug; and when pushed to the top of his speed, keep him well in hand that he may learn to bear well upon the bit, so that when going at a high rate of speed he can be held at his pace; but do not allow him to pull too hard, for it is not only unpleasant, but it makes it often difficult to manage him."

SADDLE OR HARNESS GALLS.—These are bruises caused by friction and moisture, occurring most frequently in warm weather; the parts are rubbed raw, and sometimes bleed. The treatment is simple and effectual. Bathe the parts several times a day with one pint of water and half a pint of tincture of myrrh.

WHAT A HORSE EATS.—A horse weighing from 1,000 to 1,200 pounds will eat about 6 tons of hay in a year, and 3½ tons of corn stalks or oat straw, and 2¼ tons of corn or oats, would be about equivalent for the amount of hay.

OLD HORSES.—A span of horses forty-two years old still in splendid condition; are daily seen in the streets of Watertown, N. Y.

HORNED STOCK.

DEVONS VS. SHORT-HORNS.

A correspondent at Petaluma sends us, for insertion in the *RURAL PRESS*, the following, from the *Omaha Herald*, and copied prominently into the *American Stock Journal*:

The great popularity of the short-horn cattle, their splendid colors, fine proportions, and large size, is inducing our people to breed this race of stock almost exclusively; and we are rushing along in the fashionable crowd, like most followers of mere fashion, without regarding the question of adaptation, of profit, or of absolute worth. It is certainly true that, in the hands of a skillful breeder, with unlimited means at his command, by extravagant feeding, an animal may be produced of this race that is without a peer among kine—at least so far as elegance of form and magnificence of appearance is concerned. At all fairs and exhibitions he is the acknowledged sovereign of the herd. No other race even proposes to compete with him. And here is the foundation of a great error. The fancy stock breeder can make a great show with his elegant pictures, long herd-book pedigrees, wonderful prices, and high sounding royal names; and farmers are imposed on and induced to purchase these pampered pets, with the expectation that such stock can be raised as easily as common cattle, and what is worse still, that such elegant creatures are as good as they look!

But go to Smith Field market, in London, and we find that our splendid Durham will not bring as much by two cents a pound as the red Devon. And when we slaughter him, to our surprise, his great frame will not yield us two hundred pounds more beef than the trim, close built, little Devon. The returns of the Smith Field market show that the Devons slaughtered there for ten years have averaged within one hundred and eighty pounds as much beef per head as the Durhams.

We need not go to England, however, to get facts to enable us to establish a just comparison. We know that the Durham is a slow, dull feeder; and requires the best of pastures, and most nutritious food, to enable him to do even tolerably well. That with ordinary farm management he invariably degenerates into a large boned, scrawny, sluggish, ill-looking brute, unfit for the yoke, and unprofitable in the shambles. Look at the ox teams on any of our prairies. Can a slower, meaner, rougher lot of cattle be found on the face of the earth? Six New England oxen (red Devons) will draw with ease the load that is given here to twelve or sixteen; and will travel twice the distance per day. It is not unusual there to drive a loaded team sixteen miles to a market, and return the same day. Here it is a good drive to force our lazy Durhams twelve miles in a day, and be able to get back the next. Nor will the Durham compare with the Devon in intelligence and docility. The one can be taught to obey the voice as readily, as a horse; the other is a stupid brute, and requires constant whipping to enforce obedience. These are considerations, however, which apply mainly to working cattle. Let us consider their relative merits for beef, in which our far western grazers are more particularly interested.

In the first place, our plains are covered thinly with a short, rich grass, which requires considerable activity to graze advantageously. Our cattle must, therefore, be quick feeders. We have none of the thick sward of the English, or even of the blue grass pastures. The cattle that shall flourish here, must approximate the deer and buffalo in character and habits. They must often travel far from the grass to the water. They will never be protected from the weather, and must have a thick coat of fine hair, like the fur of a buffalo, and above all they must make meat, and not tallow.

To answer all these requirements, the Durham short-horn is, perhaps, the most unfit of any race of cattle; and the red Devon is of all races probably the best adapted. While the Durham has a very thin covering of short hair, the Devon is well clad in a thick, fine coat of fur, and will be warm and comfortable when his great rival is shivering with cold. The one will mope about, turning up his dainty nose at the scanty herbage, while the other is filling himself with a grass that fattens like oil-cake. The one will scamper from the hills to the water, and back again, while the other is dragging his lumbering limbs over half the way. The Devon will give

you a rich, juicy, beef, marbled throughout with marrow-like fat; while the Durham will cover himself with rolls of tallow, but furnish a lean and unsavory steak. As a proof of this, the English farmers feed many more Devons than Durhams for market, and much prefer them. But in this country in particular, they have uniformly succeeded better, and become acclimated more readily than the Durhams.

Judge French, the late president of the Massachusetts Agricultural College, and one of the best agricultural writers in the country, told me that while he had seen as good Devons in the United States as he had ever seen in England, he had never seen a Durham here that equaled those they had there. He said the difference was very marked, and ascribed the cause to the difference of atmosphere and the peculiar constitution of the Durhams, which prevented them from acclimating.

Here then, is an inherent weakness, which always prevents the Durham from doing his best in this country. And certainly this last is in accordance with the general experience. Where is there a herd of Durhams, kept as farm stock is usually kept, that will compare with the red cattle of New England, either for work, for milk, or for beef? They do not bring such prices at Brighton market, and they are not intrinsically worth as much.

The great question in selecting cattle is, not what breed is of all others the best; but what breed is best adapted to the particular purpose required, and to the climate and location for which they are intended. There are sufficient reasons why some should prefer Short-horns, and others Devon. Ayrshires, Jerseys and Holsteins also have their appropriate place and uses. Fancy may have much to do with the question, and very often a fever for a particular class becomes contagious and must have its run; but in the end judgment generally controls, and in the light which the intelligence of the present age has thrown upon such matters, that race or breed will finally be selected which is best adapted to the needs and conditions of any particular community or locality.

A thoroughbred short-horn—using the term in its legitimate sense of care rather than blood—is, as claimed by the *Omaha Herald*, without a peer among kine, in form and appearance; such an animal, however, will never flourish in a rough, mountainous country, or in any locality where feed and water are scarce and poor. But give him the conditions under which he originated, as on the rich, smooth, well-watered pastures of his native Durham, and he will be all that even fancy paints him; and his flesh will be scarcely if at all inferior to the Devon. There is probably more difficulty in rearing good Short-horns than good individuals of any other breed of kine; for the reason that in this country, either east or west of the Rocky Mountains, there has been a general falling off in the character of the breed, from inattention or ignorance as to their care and treatment.

SECRET OF OBTAINING GOOD STOCK.—The *Country Gentleman* well says: Land that will produce good feed, and blood that will constantly render the next generation better than the one that precedes it,—are the secrets in the improvement, for all practical purposes, of our domestic animals. Be sure that the farm will support good stock; and be liberal in obtaining the service of a sire that will produce it.

A NEW FAMILY OF SHORT-HORNS.—The *American Agriculturist* says that a distinct family of Short-Horn grades has been produced in East Windsor, Connecticut, within the last thirty years. They are great milkers and sell at very high prices.

THE ORIGIN OF THE Ayrshire breed of cattle is supposed to have been a cross between the Shorthorn and Alderney breeds. According to late estimates the number of pure bred Ayrshires in this country is about 9,500, and the number of American breeders is about 250.

A heifer or cow will make beef earlier than a steer. An old cow, or an old sheep, will not fatten nearly so well with hay as with grass.

THE POULTRY YARD.

Physiology of Eggs.

The physiology of an egg has been pretty thoroughly investigated, and here is what has been ascertained in regard to it. The practical use of this description is to show that we must see that the fowl is always well kept. The way to have good laying pullets, is to quicken the circulation and strengthen the system by liberal nutriment.

Every fowl has two small organs near the extremity of the body, called the ovaria. They are filled with elastic tissue, and feel, under the finger, like sponge. The eggs are started here, and those which will mature a year, or two, or three years hence, are in embryo. One is forced up and seized by the stroma, which is seventeen inches long, and passed rapidly through. When the egg leaves the ovary it consists of yolk only, but in its passage through that canal, the yolk is surrounded by enough albumen to perfect the chick. The white of the egg has in it all that nature requires for making bones, muscles, blood-vessels, connecting tissue, skin and feathers. Just before the egg leaves the body, this canal has the power of secreting lime for the shell. This shows how valuable the egg is as nutriment, and it also shows what demands are made for rich food, by a hen that lays an egg daily. Besides what she requires for her sustenance, she is called upon to secrete the material for the body of an entire chick, and also retains for the little creature sufficient to last several hours after it leaves the shell. It shows also that a hen cannot make albumen so rapidly, except out of albuminous food, such as wheat, meat, and small animals.

The Egg-laying Limit of Fowls.

It is claimed by some that the ovarium of a fowl is composed of 600 ovula or eggs. Therefore a hen during the whole of her life cannot possibly lay more than 600, which is a natural course, and distributed over nine years, in the following proportion: First year after birth, 15 to 20; second, 100 to 120; third, 120 to 135; fourth, 100 to 115; fifth, 60 to 80; sixth, 50 to 60; seventh, 35 to 40; eighth, 15 to 20; ninth, 1 to 10.

It follows that it would not be profitable to keep them after their fourth year, as their produce would not pay for their keeping, except when they are of a valuable breed.

On the contrary it is held by others as not true that there is a certain amount of eggs, and that this number exhausted no more can be expected; but that the secretions lessen as old age comes on, and latterly the hen fails to have sufficient force to carry forward the process of egg formation.

Ducks and Hens.

Some interesting experiments have recently been made upon the comparative fecundity of ducks and hens so as to determine from which of the two the larger number of eggs can be obtained in the same time. For this purpose three hens and ducks were selected, all hatched in February, and nourished with suitable food. In the following autumn the ducks laid 225 eggs, while the hens laid none. In the following February the laying season began again with the ducks and continued uninterruptedly until August. They showed no inclination to set, but became very thin, although they afterwards fattened up somewhat. The total number of eggs laid by the hens amounted to 257, or 86 eggs each; and 392, or 131 each for the ducks, which were smaller than those of the hens, yet they proved to be decidedly superior in productiveness to the hens.

SOFT SHELLED EGGS.—When soft eggs are laid by fowls they intimate, usually, that the organs are inflamed, which is occasioned by birds being over-fed or too fat. Spare diet and plenty of green food, especially lettuce leaves, is the best treatment for fowls in that condition.

FOOD FOR HENS.—The kind and quality of food given to fowls must necessarily exercise an influence upon the quality of their eggs and flesh, although usually little attention is paid to the matter. A gentleman who kept a large poultry yard found, occasionally, that the eggs of his hens had an unpleasant and rancid taste, and on inquiry ascertained that this was always the case when the food consisted of hemp or flax seed.

A Book for the People.

The People's Practical Poultry Book; a work on the Breeds, Breeding, Rearing and General Management of Poultry; by Wm. M. Lewis. Illustrated with over 100 engravings. New York: D. D. T. Moore, Publisher, Rural New Yorker office. 1871.

This valuable treatise places within the reach of all desiring it, a very full knowledge of the poultry yard. It not only records the views and experiences of the writer himself, but also that of the most careful scientific and reliable breeders and fanciers in the country. The reader can judge for himself the best system to follow, and in this he is aided by the author's industry in providing numerous authorities on the subject. He advocates the raising of fowls in city as well as country, and gives good reasons for his views,—a prominent one of which is the convenience of having fresh eggs all the year round.

The poultry yard produces food which is highly palatable and convenient at all seasons, but if left to take care of itself, the products are often wasted, and the occupants one-half the year non-layers. The general management of fowls; fattening and preparing for market; varieties, history and characteristics of breeds are matters described in their order. The management and breeds of turkeys, varieties and management of ducks, and different breeds and care of geese, are specially noticed. The book contains a chapter on the diseases of poultry, the symptoms, care, treatment, preventives, remedies, etc., and will be found of great interest and use to the house-wife who delights in looking carefully after her feathered pets.

There is a chapter on "caponizing," which will be one of interest to persons in this country, as it is a matter to which little attention is paid, outside of Europe. The *modus operandi* is described minutely, so that one unaccustomed to performing it might do so without danger to the fowl. A short sketch of the anatomy of the egg is also given, and the hatching and rearing of chickens, by artificial means, is treated of at some length. In connection with the latter subject are numerous engravings of different incubators with an explanation of each.

WINE FOR CHICKENS.—There are always a number of persons in the world who take delight in making curious experiments. For instance, we notice that a physician of Lyons, Mass., is reported to have recently been administering different alcoholic mixtures to chickens, to note the effect. He says that chickens who imbibed red wine continued in perfect health; those who took white wine were rather low, and showed symptoms of liver complaint; the alcohol-drinkers sank rapidly, and all died; and the ones that had absinthe given them perished on the spot. Thus it seems prudent for the chicken population who wish to become high livers to limit themselves to a diet of claret and water.

HEN MISCHIEF.—It is very annoying to have a garden destroyed by hens, and it is more so when we reflect that it is entirely unnecessary. The secret of preventing it is, first, to treat your hens as though they were domestic animals, and not wild ones. Give them a home, and train them to know that it is their home. Don't keep your chicken-coops in the door yard and then scold about the hens being always around the door. Don't compel them to roost in trees, and afterward complain about their befouling the fruit. If you have no hen-house, don't grumble because the hens roost in the wagon shed. If you compel your hens to live upon bugs and worms, and chase grass-hoppers, you must expect that they will scratch. If you would not have your hens mischievous, feed them.

MIXING BREEDS.—There is little doubt but that more eggs can be obtained from hens by mixing the breeds, than by breeding in and in. But if the latter course is adopted, the eggs of the same breeds should be interchanged between different poultry yards. Little trouble need be apprehended from roup, gapes, cholera, and other diseases in poultry, if the care is observed in breeding and crossing, that is so essential to all well regulated poultry yards.

AGRICULTURAL NOTES.

CALIFORNIA.

WHEAT MOVEMENTS.—The *Vallejo Chronicle* learns from "a well posted grain operator," that Butte, Colusa, and Tehama counties have rushed a good deal of wheat into the market at prevailing prices, the farmers of Colusa having been so rash as to send forward nearly all their crop not leaving enough for seed, which will have to be purchased for another crop. The wheat of that region has constituted the major portion that has so far gone out of first hands, generally into the hands of millers for present needs, and for winter stock. Vallejo has received considerable grain by rail, although the Sacramento river has transported large quantities to lower points. Napa and Sonoma counties, whose crops were abundant, have sent no grain to market up to this time, although some small purchases in Napa have been made for Starr's mills. The farmers of these counties are generally able to hold their grain, and when it is sent forward the wheat goes in such dribblets that prices are never affected. Lake county is sending out its surplus wheat, before the rains set in, the crop of which was excellent.

LAND IN THE NORTH.—The *Lassen Sage Brush* says there are millions of acres of the finest land in the world, north of Big Valley and the tributaries of Pitt river, and that there will be at least 2,000 people in that county this fall seeking permanent homes. That paper advises settlers to enter upon these lands and take up ranches ahead of, or in defiance of, the speculators who are taking measures to secure them under the swamp and overflowed land act. It thinks there was never a better opening for industrious and steady men than the northern counties offer, and there will never be a better time to embrace the "golden opportunity" than now.

CROPS IN SHASTA VALLEY.—The *Yreka Union*, Aug. 26th, says that the crops in that valley, as a general thing, have not turned out as well as it was expected they would have done. Farmers who usually have 800 or 900 bushels, have only 400 or 500 this year.

COLUSA MELONS.—The *Marysville Appeal* says that six watermelons grown in Colusa county were recently weighed, and aggregated as follows:—54, 57, 57, 58, 60, 61. The *Appeal* thinks Colusa is entitled to the banner.

THE HARVEST in Solano and Yolo, according to the *Vallejo Recorder*, will yield but little above the quantity needed for seed. Berryessa valley, has made a total failure in its crops, and will retain nearly all for seed and local consumption.

WHEAT, for milling purposes, was selling at Vallejo on Saturday last, for \$2.27 1/4. At Davisville, 700 or 800 tons are being held for three cents, for seed.

VALUABLE HORSE POISONED.—The well known horse M. W. Patchen, owned by W. B. Clement, Esq., of Alameda, and Martin White, Esq., of Nevada, was killed a few days since, by an over dose of medicine administered by a horse-doctor. Foul play is suspected, as it was the intention of his owners to have put him on the track this fall, it being their firm conviction that he could beat 2:30.

FARMERS' MEETING—GOPHERS. —The farmers' meeting mentioned in our last issue to have been held in Merced county to devise some means of ridding that section of the gopher and squirrel nuisance, adopted a resolution recommending the farmers of the county lying on the north side of Merced county to use strychnine for the destruction of squirrels, on every Thursday and Monday, for three successive weeks, commencing on Thursday, Aug. 31st.

A committee of four was appointed to solicit farmers not present at the meeting, to join in the work for the destruction of squirrels.

The *Argus*, after mentioning as the result of the first day's poisoning on the ranch of A. B. Anderson a two-horse load of rabbits and squirrels, intimates that if all of the other farmers are as successful in destroying the vermin as Mr. Anderson seems to be on his place, this kind of vermin will soon disappear entirely from this section of the country. Mr. Anderson puts out the poison in watermelons, and it seems to make a clean sweep of both squirrels and rabbits, wherever it is distributed upon the grounds.

OATS IN SANTA CRUZ.—M. D. Staples has furnished the *Santa Cruz Sentinel* with a statement of his success in raising oats on his ranch in Blackburn Gulch, which

shows that cereals will flourish finely among our hills. He sowed the American oat, on land which had received little or no preparation, at the rate of one bushel to the acre, and realized eighty bushels to the acre. The stalks were strong and healthy and stood seven feet high. The Norway oat, which was sown on land which had received no manuring, did well, and sometimes thirty stalks would spring up from a single seed. We expect to see a large amount of grain raised among our hills as soon as the land becomes cleared.

CROPS IN SALINAS VALLEY, MONTEREY Co.—A correspondent of the *Watsonville Sentinel* writes that paper that he had recently driven through Salinas Valley and observed in many places average yields of grain, notwithstanding the present season has been very dry. He noticed that where last year, fair crops for the season were harvested, this year nothing has been produced, and *vice versa*, and thinks when farmers become better acquainted with the soil, the importance of rotation of crops, and learn how to take a far better advantage of the changes of seasons, there will be no danger of general failure. The farmers of the Salinas have at most but a few years acquaintance with the soil, and the peculiarities of the climate, the majority having only a transient interest in the farms they cultivate. These failures appear to have occurred only on lands seeded with wheat and barley, without rotating. Notwithstanding the failure, the writer predicts that not many years hence the Salinas Valley will afford homes for many thousands of prosperous farmers. Not a valley in the world, with half of its advantages and richness of soil, has proved a failure.

PAJARO VALLEY.—the same writer says that the yield of wheat and barley in Pajaro Valley is beyond the expectation of many of the farmers. On the Amesti Ranch, Mr. Pinto has a field of thirty acres of wheat, from which he has harvested fifty-two sacks to the acre.

New houses are going up all over the valley and many farmers are making permanent improvements.

OREGON.

WHEAT COMING IN.—A correspondent of the *Willamette Farmer*, writing from Portland, August 23d, says the farmers have commenced bringing in some of the new crop of wheat from Washington county. The kernel is large and plump, weighs well, and is well matured, yielding but a small percentage of bran. We doubt not but that this is the case with most of the wheat in the State.

CHARACTERISTICS OF OREGON WHEAT.—The writer above quoted says that Oregon wheat is not so flinty as the California article, nor "branny" as the wheat of the Atlantic and Mississippi valley States. And for these reasons—being a happy medium between the two extremes of the wheat crops of the nation.—Oregon wheat will always command the leading price of the markets of the world, as soon as we can send annually enough to market, to familiarize it with buyers and have it called regularly at the great grain sales in New York and Liverpool.

CORN.—The *Farmer* learns from a gentleman who lately visited the country lying between the forks of the Willamette, that corn grows well in that region. He saw fields that reminded him of Illinois. It cannot be claimed that Oregon is a corn growing country; but there are localities where, with proper attention, corn matures well. The Walla Walla valley is perhaps the best corn growing region west of the Rocky Mountains.

PEACHES do not, as a general thing, do well in the Willamette valley, according to the *Farmer*.

MELONS.—The largest melons of the season, received at Salem, have been from Hood river, from whence one was received which measured 22 inches in length, and 26 in diameter.

THE GRAND RONDE VALLEY.—The *Walla Walla Union* learns from a gentleman from La Grand, Oregon, that times there are very encouraging. The farmers are busily engaged in gathering their crops, which are exceedingly good this year. An evidence that the farmers are doing well is seen in the new buildings being erected by them throughout the valley, in the shape of farm-houses, barns, etc. As a stock country, Grand Ronde has no equal in Oregon—that valley being well adapted to the raising of timothy hay, and the foot-hills being covered with rich growths of bunch grass, affording a fine Summer stock range.

WHEAT IN LA GRANDE is worth only 50 cents per bushel; this is on account of its

remoteness from market. That country, like this, is suffering from want of cheap and quick transportation. A fine grist mill is being built about five miles from La Grande, which will be capable of turning out a large amount of superior flour. There are now quite a number of other mills in operation, doing good work. There is yet a large amount of fine farming lands in that valley unoccupied, awaiting settlement, which can be obtained at Government price. This is one of the best valleys in Eastern Oregon, and in a few years, when cheap transportations is accorded it, will yield a large amount of commerce.

A WATER QUESTION.—Several land owners along the Tualatin river, protest against the use of the waters of that stream for a canal to Sucker Lake. Parties owning lands below, where the water is to be taken out, propose to contest the matter by law.

THE STATE FAIR.—Active preparations are being made for the State Fair, which opens at Salem, October 9th.

AGRICULTURAL WORKS.—The main building for the Agricultural Works at Salem, will be 160 feet long by 60 wide, and three stories high. It is expected that a large portion of the agricultural machinery needed in Oregon and Washington territory will be turned out at this establishment.

WHEAT BURNED.—Sparks from a locomotive set fire to a large field of wheat near Albany, a few days since. The wheat was nearly all destroyed.

GOOSE LAKE.—It is stated that there are now about 500 settlers in Goose Lake valley. Somebody says the principal crop this year, in that valley, is crickets, of which in many localities the crop is estimated at over 100 bushels to the acre.

COLORADO.

THE EGG BUSINESS, says the *Caribou Post*, is one of the most profitable connected with Colorado farming. The eggs often keep a family in groceries.

FARMING IN THE VALLEYS.—The *Central City Register* says almost every one is surprised to note the amount of farming that is being carried on in the little valleys scattered here and there among the mountains. In the towns people are beginning to think of beautifying their houses with trees, vines, shubbery, etc.

IN GILPIN COUNTY.—According to the *Register* there are something like 1,500 acres under cultivation, of which 505 are in potatoes and 587 in grain. The hay land reported, is principally such as has been cultivated, and now is sown to timothy, etc., no effort being made to get the amount of wild hay land, which would amount to several hundred acres. Small grains do not ordinarily come to maturity, but it is not considered less profitable to grow them out that account. They are universally cut for fodder, which is worth \$60 per ton.

The potato crop will average this year 100 bushels to the acre; although it has been greatly injured by a severe hail storm. The hay crop will average 1 1/2 tons to the acre. It is thought that there are at least 5,000 acres susceptible of cultivation—and some say 10,000. This is a pretty good showing for an elevated mineral county, where none of the land is less than 8,000 feet and much of it over 9,000 feet in altitude.

COLORADO STOCK FIRM.—P. T. Barnum and General Schofield and brother have purchased 30,000 acres of land in Colorado. They will stock it with 1,000 head of fine blood cattle, and if these prove profitable will follow with larger investments. The same field is open for hundreds more of such enterprises in Wyoming, Colorado, and New Mexico. There need be no fears of the business being overdone for a generation to come, nor as long as meat sells in Eastern cities at fifteen or twenty cents a pound, retail, as now.—*Cheyenne Leader*.

IDAHO.

CROPS ON SALMON RIVER.—A letter to the *Lewiston Journal*, dated Salmon River, Aug. 11th says: "The season has been one highly favorable to our crops here this season, and we expect to show as fine crops of corn, cabbage and potatoes, raised along the banks of this stream, as will be produced any where from an equal amount of seed. Where we have sufficient water in the small creeks for irrigation, we are all right, and the present season we have had a good supply. Fruit trees are doing well. We have peaches well ripened, and melons in large quantities."

CROPS ON THE UPPER WEISER.—The *Statesman* learns that the crop prospect on the Upper Weiser is good. "The wheat will prove an excellent yield. It is the in-

tention of the settlers there to make their wheat into bacon this fall, and they have provided themselves with a large stock of hogs for that purpose. Few places either in Upper Idaho or Washington Territory, it is claimed, present better inducements for the stock growing than Weiser county. The hills are covered with a fine quality of bunch grass, which alone will keep cattle good beef nearly all the year round. The grazing range is abundant, covering rolling hills gradually rising into high mountains on the east, and low rolling hills on the west, extending to Snake river. The farmers generally are a kind, generous and industrious people, and are gradually accumulating wealth, principally in stock.

UTAH.

GRASSHOPPERS IN SUMMIT AND MORGAN. Bishop Cluff, of Coalville, informs the *Salt Lake News* of the 31st ult., that myriads of grasshoppers made their appearance in Summit and Morgan counties two weeks previous. They are too late to do much damage to the crops, but everywhere in the two counties the pests are now laying their eggs, giving promise of a full supply of their descendants next Spring.

He also said that a vast amount of timber is being burned at the head of Weber. How the fires originate is unknown, but it is supposed that they are left smoldering at their camping places by prospectors. The head of Weber is about the best timber-growing district in the Territory, and to have so much good wood wantonly and foolishly wasted is a great pity. Men out in the mountains ought to be more careful than to leave fires at their camping places. Whoever may be responsible for this destruction deserves severe punishment, whether it be the result of carelessness or wickedness.

FAIR AT OGDEN.—The Agricultural and Industrial Fair which is to be held at Ogden, on the 29th and 30th of the present month is expected to be very well attended, and the farmers and citizens of that region are doing their best to make it a success. The Premium List has not yet been published.

NEVADA.

THE CROPS.—Accounts from most parts of the State are highly favorable with regard to the crops, particularly in Humboldt county, where the grain crops in particular, are excellent. According to the *Humboldt Register*, the Quinn River country will return a most extraordinary yield of grain and vegetables. There is said to be corn growing there which stands 17 feet high, and still growing with four to five ears on a stalk! A melon is mentioned which measures 3 feet 4 inches in length and 4 1/2 in. in circumference, and weighing 73 pounds. Has California raised a bigger melon.

THE CROPS IN LONG VALLEY are doing well, while those contiguous to Susau river are better than they have been for years. The farmers in that section are nearly through with their harvest.

REESE RIVER, seems to be rather an exception, as there is a general complaint from that locality that both the grain and potato crops are short. New wheat is selling at Austin at 5 1/2 cts. per pound.

AN IMMENSE DROVE OF SHEEP numbering, according to the *Silver State*, 80,000—head lately reached Oreana, from California, on their way to the eastern portion of the State, in search of mountain pasturage, which is represented as abundant there.

LARGE EGG.—A last May's pullet, belonging to Dr. R. B. Sharp, of Carson, has just laid her third egg. It measures 5 1/2 x 7 1/2 inches in circumference. Her first egg was merely of the ordinary size; her second eggstra, and this last eggstraordinary. At this rate it is confidently expected she will lay eggs as big as watermelons by Christmas.—*Gold Hill News*.

OUR LANDS AND THEIR CAPABILITIES.

The proportion of land of California under cultivation, compared with the entire area, is very small. According to Land Office figures, there are 60,000,000 acres capable of bearing wheat, but only 5,000,000 have been taken up, and only 2,600,000 are cultivated. Of this according to the Surveyor-General, 1,263,000 were, in 1869, in wheat, giving 19,000,000 bushels, or fifteen bushels per acre. It follows that if, by means of increased facilities, 15,000,000 acres are in time got under wheat, the crop will be 180,000,000 bushels, or ten times the present average crop, which is raised without irrigation, in sections ill provided with transportation.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING AUGUST 22D.

VAPOR BURNER.—Coelidge B. Brown, Placerville, Cal. Antedated August 21, 1871.

SHIELD FOR BOOTS AND SHOES.—Orren Collier, Sacramento, Cal., assignor to Robert M. Funkhouser, New York, N. Y.

RULER.—Louis Feusier, Jr., Virginia City, Nev.

RULER.—Lemis Feusier, Jr., Virginia City, Nev.

SIDE-ARM SHEATH.—Joseph J. M. Frey, Sacramento, Cal.

SCREW PROPELLER.—Henry Zahn, San Francisco, Cal.

TRADE-MARK.

PIPIFAX BITTERS.—Walter & Shaeffer, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

PROJECTILE.—Thomas Hill, Vallejo, Cal. This invention consists in the use of two or more concentric shells, one within the other, so arranged that one shall contain the bursting charge, while the other shall be loaded with bullets, scrap iron or other missiles that are to be thrown out by the explosion. If a third inner shell is employed, this may serve to contain a small vial of liquid fire which is broken by the concussion of striking, and communicates with the bursting charge through small holes in its containing shell. If preferred, tubes are made to extend through the shell in different directions, so that some one of them shall be in a line with the direction of impact at the time of striking, and these tubes contain fulminates so arranged as to explode by the concussion, and thus ignite the charge in the shell.

CHURN.—Thomas Bee Parko, Downieville, Cal. The object of this invention is to provide certain improvements in the construction and operation of churns using double rotary dashers, and it consists first, in a peenlar form and application of the dasher arms and their arrangement so that the cream is thrown from the center of the tub to the sides, where it will be acted on by the outside beaters; and secondly, in an improved manner of securing the cover upon the churn, so that it cannot be displaced by operating, but can be readily removed if required. It also consists in a novel arrangement of the driving gear, by which the beaters are driven at different speeds, so as to give the best results. Mr. Parke has exhibited his churn during the Mechanics' Fair to many thousands of visitors, who have been attracted to witness its simple operation. After practical use, he has called it the minute churn, as an appropriate name for it.

WELT TRIMMER FOR BOOTS AND SHOES. Joseph H. Allen, Wadsworth, Nevada. By means of this invention a simple and convenient tool for trimming the welts of boots and shoes is provided, and it consists of an adjustable knife properly protected so that it shall not cut the upper leather, by means of a flat, tapering guard bent at its outer end and secured to a convenient handle. The knife is made adjustable in a holder which moves in a slot in this guard.

FARM GATE.—Michael Barthel, San Francisco. This invention is an improvement in self-operating farm gates, or rather those which are intended to be opened or closed from either side without leaving the vehicle. It consists of a gate having

a horizontal axis at the bottom and inside end of the gate, so that it can be turned about this axis when opened. Posts sufficiently tall are so arranged as to carry the operating cords to a point within easy reach of the driver. These cords lead to large pulleys at the side of the gate or the inside post. One of these wheels or pulleys is eccentric and the other concentric to their axis, and by means of other cords passing from these wheels to points on the gate, it can be opened with the utmost ease, and can be made to stand at any point, partially or fully, opened or closed by means of the eccentric pulley, and a system of compensative weights which do not in the least interfere with its action.

GOLD-SAVING APPARATUS.—George R. Evans, Virginia City, Nevada. This invention consists in the employment of an ordinary sluice having transverse slats at points along its bottom. Just beneath this sluice is placed one formed with alternate convex and concave semi-circular arcs, so that the concavities are beneath the slats above mentioned. By this arrangement the heavier particles of gold and amalgam, which are moving along the bottom of the sluice, will be carried through the slats and fall into the quicksilver contained in the lower sluice where they will be saved.

FURNACE FOR ROASTING ORES.—Stephen Ambler, Monitor, Cal. This invention relates to what the inventor calls a compound blowpipe furnace, to be used for smelting or roasting ores. It consists in a carbonizing chamber into which the wood is placed and converted into charcoal before it reaches the fires, where it is to be used as fuel. Two pipes lead into this furnace through which a blast of air is driven, one of the pipes being so arranged as to give an oxidizing flame, and the other gives a reducing heat.

Connected with this chamber is a reducing tube into which the ore is fed, and through which the heat from the carbonizing chamber is caused to pass, carrying with it the pulverized ore which passes into a revolving cylinder, which is connected with the opposite end of the tube.

SANTA CLARA VALLEY AGRICULTURAL SOCIETY'S FAIR.

The fair of this enterprising and well managed Society, this year, was in many respects superior to any of its predecessors. On account of the dry season and short crops, the managers were at first undetermined as to the policy of holding a fair this fall, but finally concluded to do so; and being men who believe in doing nothing in a half-way style, they set themselves to work in earnest, and have produced a result really astonishing, not only to their numerous visitors, but to themselves as well. Our reporter being unable to remain in San José but one day, can only give the result of that day's observation.

The Pavilion

is a new, one story building, located in the central portion of the town, and very well adapted to the purposes for which it is designed. It is 170 feet long by 50 feet wide, the roof being supported by trestle work which is tastefully covered and ornamented with red, white and blue, and hung with flags of many nations. As you enter the hall you are struck with the artistic skill displayed in the general arrangement of the goods on exhibition.

No fair can be generally conuted a success, by a California audience, unless good taste is shown in arrangement; and this fact no people understand better than the citizens of San José.

The sewing machines have here, as usual in such fairs, a pretty full representation, and make rather a pleasing exhibition of machines and manufactured goods. Passing these and some very excellent pianos of the celebrated Chickering make, and some fine exhibitions of needle, wax and other handy work, contributed by the ladies,—we come to one of the main attractions of the Fair:—

The Floral Department

was made up by the well known pioneer flor-

iculturists, Wm. O'Donnell and L. F. Sanderson. In the center of the building stands a very ornamental fountain, exhibited by McKeuzie of the San José Foundry, from which play numerous jets of water to the height of some ten feet, falling into an octagonal trough. Mr. O'Donnell has arranged a choice collection of evergreens, shrubs and trees, among which are the eucalyptus, callars, roses, geraniums and fuschias, producing, with the mingled sprays of falling water, a most charming effect.

Next comes a table upon which is arranged, by Mr. Sanderson, a beautiful pyramidal exhibition of flowering plants, in great variety; the central, and, perhaps, the most attractive feature of which is, the most magnificent specimen of the Pampas grass we have ever seen. Just beyond this Mr. Sanderson has another table, in the center of which is a square glass case, in which is an extensive and most beautiful collection of rare and delicate ferns. This case is surrounded by a very fine display of cut flowers, dahlias, roses, pinks and other choice and showy varieties too numerous to mention. We next pass to the

Pomological Exhibition,

which, considering the fact that the fair is about two weeks earlier than it should be for a display of Santa Clara fruit in its best condition, and the dryness of the season, is very creditable.

B. S. Fox is the principal exhibitor in this department. He has some 100 varieties of pears, all named and very well grown; besides some ten or twelve varieties of California seedlings produced by himself, many of them promising well. Of apples, Mr. F. exhibits some 70 varieties; 36 varieties of plums and prunes; 4 of nectaries; samples of black walnuts, English walnuts, almonds and medlars.

J. R. Lowe, Sr., exhibits 11 varieties of pears, 7 of plums and 1 of apples.

Mark Farley has some 20 varieties of apples; 36 of pears, and three of plums. We also saw on the same table 16 varieties of grapes, among which we noticed the White Corinth and the Zante emraut grape; La Frank of the New Almaden vineyard, exhibits a variety of wines in bottles, surrounded by a promiscuous collection of some 30 varieties of grapes.

Thos. D. Appleby exhibits a fine collection of California raised garden and flower seeds, among which we noticed the opium poppy. A very good exhibition of vegetables is made by some Italians whose names we did not learn. Sugar beets were shown, illustrating the difference in the size between those irrigated and not,—the former, we should judge, would weigh 15 pounds each, and the latter not one-half that amount. There were also potatoes, tomatoes, cabbage, lettuce, carrots, parsnips, radishes, spinach, beans, peas, corn, pepper, etc., all well grown and of fine size and quality.

Servier Tonnars exhibits some very elegant chairs, settees and picture frames of rustic work which attract great attention; also a collection of shields, bows and arrows, and other curiosities. An exhibition of great merit is made by Delong & Combs, of the Excelsior marble works, consisting of elegantly designed and artistically executed mantles, headstones, statuary, busts, medallions, etc. The San José Woolen Mills make a very creditable display of their excellent cloths for most all purposes.

Agricultural Implements.

Of these there are but few on exhibition, and we believe that none of these are made in Santa Clara county. In this department we were disappointed, that one of the first agricultural counties in the State should fail to show at an agricultural fair any home made agricultural implements.

Nash, Miller & Co., of Sacramento, have on exhibition one of their excellent fan mills, and one of Hill's Eureka gang plows is shown; also a fan mill of Dickey's patent; a patent wood sawer's help is exhibited by McKeuzie, said to be a good thing. W. T. Adel, and McQuade and York, exhibit some very excellent home-made bugies and carriages.

Stock—A Change.

No one who has visited the agricultural fairs, so far held in this State this fall, can have failed to have noticed a great falling off in the interest manifested in the exhibition of horses, and a corresponding increased interest in that of blooded cattle and sheep. This must be accounted for on the ground of the decrease of the value of the former and the increase in the value of the latter. To the horse, with the California people at this time, speed is the great desideratum to give value. Fast horses are the only ones with which the country is not overstocked, and as our people are

not likely soon to lose their disposition to be fast, it is not probable that fast horses will soon overstock the market.

There were at this fair, however, a very great number of horses on exhibition, and though not containing a very large proportion of thoroughbreds, the display, as a whole, was one of the best ever made under the auspices of the society, and was a credit to the State.

The Grand Parade

was a very fine affair, and we doubt if any other county or district in the State can equal it. The principal exhibitions of horses may be classified as follows:

Thoroughbred Horses—Wm. Paul's "Consternation," Harris' (Salinas) "Vermont," Boots' "Hercules," Hall's (Alameda) "Woodburn" and "Ironclad," etc. Thoroughbred Mares—Hamilton's "Belle Boyde," Charles Murphy's "Perie," and "Omaha," Savidan's "Alise Ondel," Hall's "Peggy Ringgold," "Esperanza," etc.

All Work—Exhibitors are G. Simons, J. P. Dudley, Cooney, Britton, Massey, Thomas, Conner, Lilly, Paul, Scott, Boots, Briggs, Clark, etc.

Mares, two and three-year-olds, all work—Hamilton, Paul, Cooney, Nickelson, Brittan, Lehay, Hall, Lyman, Conner, Harris, P. Green, Wm. Cox.

Roadster's—Hamilton's "Alexander," Beatty's "Jerseyman," Searle's "Captain Jinks," Harris' "Sant Souci," and "Stenewall," others by Boots & Fish.

Mares, three-year-olds—Entries by Rear-don, Scott, Hamilton, Fish, Cox, Searle, N. G. Smith, Harris, Beatty.

Draft horses—Entries by Thomas Blake, C. Dubois, Wm. H. Hall, Britton, J. P. Dudley.

Mares—Dudley, Britten, Blake.

Families, stallions with six or more colts—Entries by Hamilton, Anderson, Hall, Boots, Fish. Mares, four or more colts—Lymau, Hamilton, Conner, Hall.

Carriage horses—Spans entered by Wm. Paul and H. W. Searle.

Mules—Pairs entered by W. H. Swoope and Searle.

Cattle.

Colonel Yeunger exhibits the same as he exhibited at the Bay District fair, except two heifer calves Lady Bell and Romie, and two bull calves Storm and Howard, which he sold to Joseph Teal, a well known stock breeder of Oregon, for the sum of \$2,400, while at the Bay Fair.

To fill up the gap made in his exhibit he has added from his home herd a very fine cow, Maggie, and a small calf by Don Pedro. Maggie is the mother of Glencee. Also a bull calf, Richmond, by Jeff Davis. Dolly, a red cow and her calf, Rose of Sharon. A red cow, Nanna, and a year-old heifer calf, Norma, out of Lady of the Lake—making his show better than before. Wm. Quinn has added to his exhibition at the Bay, a graded cow and calf, Fredricka.

C. B. Polhemus exhibits, in addition, two fine twin heifers, Nellie and Colleen Bawn, out of his Durham cow, Maggie. Emerson exhibits his Holsteins, the same as at the Bay. Charles Clark has added to his herd a graded heifer, Snow Drop, and a graded cow and calf.

James Sanderson exhibits a year-old Durham heifer, Peggy, No. 3, and a graded bull.

Pete Saxe exhibits seven yearling bulls and three heifers, same as at the Bay. John Cooney of Santa Clara exhibits an Alderney bull.

F. D. Atherton, of San Mateo Co. shows an Ayrshire cow, two years and a half old—Benny Jean and calf; also same stock and age, Highland Mary, bull calf. These two cows have been imported from Scotland this year and are reputed to be of the best milking stock. H. W. Seal's stock is the same as he exhibited at the Bay.

Angora Goats.

Landrum & Rodgers exhibit a fine pure buck and ewe, and a pair of young kids. McCracken & Lewis show a pure blood buck, and some 30 head of graded goats.

Sheep.

Landrum & Rodgers show a Cotswold ram, Wm. Wallace, said to be the largest in the State, and a ewe, Bill of Pajaro, and two lambs; also a graded ewe and lamb. They also exhibit two pure blood South-down rams and two graded. John Messersmith exhibits a pure blood Leicestershire ram, one ewe and two lambs. Peter Saxe shows 10 Cotswold rams and nine ewes. Carr & Beverage shows eight full blood Southdowns.

Poultry.

Kennedy & Co., of Santa Clara have some coops of very fine chickens of the following kinds: Black Brahmas, Light Brahmas, Buff Cochins, Spangled Hamburgs. Also Chinese ducks and some geese.

GOOD HEALTH.

The Cholera.

Much uneasiness is being felt throughout the Eastern cities at the threatening appearance which the cholera epidemic appears to be assuming in Western and Southern Asia, and in some parts of Europe. We hear of isolated cases in London and Paris, and are told that various measures are being taken to prevent its appearance in Berlin.

The severe famine from which many portions of Western Asia are now suffering, is thought to be nourishing the pestilence there, where it has for sometime been raging with much severity. It is evidently creeping westward slowly but surely, having already gained a firm footing in Russia, become virulent in Poland, and made its appearance in a dangerous form in the Eastern provinces of Prussia. We have even heard rumors, by telegraph, of cases in some of the Atlantic cities; but later reports have not confirmed its presence this side of the Atlantic—the supposed cases have been shown to have been cholera morbus.

It is thought, at the East, that the summer is so far advanced, that the epidemic can hardly get a foothold there this season; still careful preventory measures are strongly urged upon the officials of the various Atlantic cities.

An Ill-Boding Insect.

Of course all sorts of rumors may be expected in such a crisis, and all the numerous crop of theories will be again brought out for ventilation—indications of its approach, theories as to cause and preventions and remedies to be employed. The latest thing in regard to the indications of its approach is that of the appearance of an ill-boding insect, called the "Pestilence Fly," which is said to have suddenly made its appearance in New York.

This insect is said to be the precursor of the cholera or other pestilence. It is a little longer than the common house fly, and has very transparent wings of a slightly purple hue. The head is perfectly round, of a dark brown color, with a white mark on the face. The body is divided like the wasp's. The round portion next the head, to which the wings are attached, is of an invisible green. The remainder of the body from the waist to the tail presents alternate rings of black jet and a pale yellow. It has six legs which are longer than the common fly's.

HEALING QUALITIES OF RED CLOVER BLOOMS.—Our correspondent "Jeigh Arrh" writes of his experience in the curative qualities of red clover, as follows: "Some years ago I had on my instep an obstinate, watery sore. I healed this over every two weeks on an average for some time. I made a strong infusion of red clover blossoms, and boiled it down to a salve. Three days use of this salve would reduce the sore, and produce a skin apparently healthy and fresh as a child's; but a few days would redevelop the evil. I believe an infusion of red clover heads used instead of tea, would prove a powerful and useful alternative; but would not advise its external use in cutaneous disorders. The facts as set forth above, you may rely upon."

CIRCULATION OF BLOOD IN THE SYSTEM.—The blood circulates through the body in about two minutes. The amount of blood will not vary much from twenty-four pounds, so that twelve pounds pass through each minute. It is estimated that the blood moves at the rate of two and a half feet in a second, or at about the rate of two miles an hour.

GENTIAN ROOT.—It is said that a little coarsely cut gentian root, well masticated (the saliva being swallowed), taken after each meal, will soon cure one of all desire for tobacco chewing. Gentian is the basis of most of the tobacco antidotes advertised.

REMEDY FOR DIARRHEA.—The following simple remedy for chronic diarrhea is from a medical work by Dr. Faneher: Take two pounds of the bark of the root of blackberry, and a suitable quantity of water; boil for two hours, then pour off the liquid; then add more water; continue to boil and pour off till all the strength is extracted; then strain, and add all boilings together; simmer to two quarts; strain, add four pounds of loaf sugar, and when cold, add half a pint of the best French brandy. Dose, a tablespoonful three times a day, fasting. If it does not arrest the disease in a few days, gradually increase the dose as the stomach can bear.

Another and more simple remedy is as follows: Put a teaspoonful of wheat flour in a tumbler of water; beat until it foams, and drink immediately. If the patient is thirsty, more water may be added. It should be taken four times a day—before meals, and on going to bed.

EDSON'S STEAM RECORDING GAUGE.

When scientific men attempt to investigate the causes of such boiler explosions as that, the details of which, are harrowing the feelings of the people of New York, one of the first questions after ascertaining that there was plenty of water in the boiler is "what was the real pressure in the boiler

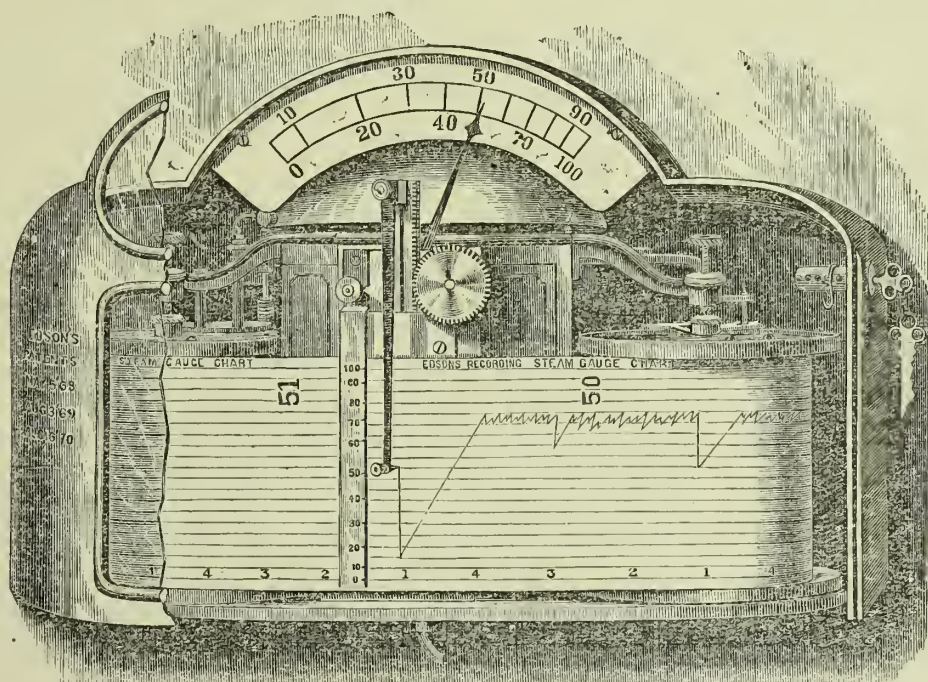
maehine which cannot go wrong, without showing us the cause of the error, than in the most accurate and conscientious observer.

The whole science of meteorology was placed upon a new foundation by the introduction of automatic registering instruments, and why may we not expect a similar advance in steam engineering, when automatic recording steam gauges are generally applied to steam boilers?

The object of the present article is to describe such a gauge and explain some of the things which may be learned from an inspection of these records.

Our first illustration shows a gauge adapted to record all variations of pressure occurring in a steam boiler, or any other vessel subjected to internal pressure.

The gauge is connected with the boiler by means of a pipe which allows the steam to act upon a series of corrugated discs arranged in pairs which are expanded by it. The motion thus produced is transmitted by a lever to a wheel, shown in the engraving. This wheel working in a rack moves the pencil, and with an increasing pressure makes a direct stroke upwards upon the paper. When the pressure falls the paper receives a forward motion and the mark of the pencil is consequently at an angle,—about 30 degrees from the perpendicular, the drum at the right hand side winding up and unwinding the paper from that upon the left. By the side of



EDSON'S STEAM RECORDING GAUGE.

at the time of the explosion?" The engineers answer in this case, is "27 pounds." Honest, no doubt, he is, but still his eye was not upon the gauge at the moment when the iron parted, and we are still in doubt about it for want of direct testimony.

In each case we meet the same difficulty. We are told what the pressure was a few moments before the explosion, but what we want to know is the pressure at the last moment. Engineers who are in position and see that, have rarely, if ever, lived to tell the story. To this ignorance of the real pressure, more than any other thing, do we owe the mystery surrounding boiler explosions.

There is nothing that can be brought up in proof, to show that boilers have not been strained by over pressure at some previous time. During the whole life of a boiler except the few minutes while the gauge is under the eye of the owner, we are in almost as much ignorance of the real pressure carried, as people were in the days of Sarcy's engine. To this ignorance we owe the continuance of such absurd theories as have recently been ventilated in the columns of the newspapers.

The real want is an automatic registering steam gauge, which shall make a continuous record of every change in pressure, so that at the end of the day, or at any time, we may be able to see every fluctuation that has taken place. The amount of information to be gained from such a record would surprise a person unaccustomed to examining the automatic records of such instruments as the barometer, thermometer and wind gauge.

We of course feel more confidence in a

the pencil is a scale for convenience of reading the pressure. A single roll of paper will last for months and may then be filed away for future reference. Above the paper is a dial and indicator hand, similar to that of an ordinary pressure gauge. By means of another attachment an alarm gong is sounded whenever the pressure exceeds the maximum determined upon when the gauge is locked. This gong continues ringing for nearly half an hour unless steam is lowered.

The kind of delineation made by the pencil is shown very well in the engraving. If the pressure fluctuates only a few ounces at a time up and down as it often does with each stroke of the engine, the notches of the line drawn by the pencil become so small as to be apparently a horizontal line.

We have before us, while writing, several of these rolls of paper or charts, which are very appropriately termed 'steam logs.' The first is from the boiler of the steamship Wyanoko, plying between New York, Norfolk and Richmond, Va. It extends from the 29th to the 36th voyage inclusive. By an examination of it we learn many particulars relative to the boilers which even the engineer himself might not have understood. During the first and last part of each trip pressure is maintained pretty regularly at 35 to 40 lbs. In the middle of the trip it sinks to zero, showing the time spent at Norfolk. The average pressure on the run from Fortress Monroe to Norfolk and back is usually ten pounds less than at any other part of the round trip. This is probably accounted for by the still water—river and ocean navigation requiring more power. These characteristics are well preserved during each voyage.

On examining more closely, and comparing one chart with another, we find on the 31st and 32d voyages that the pressure

reached its highest point, and yet there seemed to be great difficulty in keeping it there, and the moment the steamer got outside it fell to a point very much below the average. Here was something to be accounted for. Upon inquiry, it is found that the quality of the coal on these trips was not quite up to the average, which, together with some other little things, gave the reasons for these departures from the usual uniformity.

On another occasion a head wind prolonging the voyage, gave a peculiar form to the chart, prolonging that part made outside of the capes. The remaining voyages present nothing to arrest the attention, and we find from the ship's log-book that they were in every way like those we first examined. Such a log is an honor to both engineers and firemen, and gives the owners a comfortable series of security when it passes inspection at the office.

The next chart which we have is from the boiler of a steam cotton press, covering a period of nine weeks. The fires are banked at night, and steam for six nights in the week does not fall below 10 or 20 pounds. The working pressure is about 45 pounds. In this chart the middle of each day is marked by a distinct fall in pressure, showing where work stopped at noon. The greater length of the first or last part of the record for the day shows distinctly whether the greatest part of the work was in the morning or afternoon.

In the early part of the season there were several days in which no work was done, though steam was kept up as usual. This is shown by the record—the pressure rising and falling without a vibration. Saturday nights the boiler was allowed to cool and the pencil for the first time in the week reaches zero.

On one day work came in after the steam had begun to run down for the night. This required the fires to be opened, and of course we find a record made of this fact in the shape of a rise in the pressure just after the final fall for night had begun. We find that on another occasion the pressure was kept above 20 pounds all night; this was during the busiest season and only occurred once.

We might thus go on at a much greater length; but another log will be found of greater interest, from the steamship Virgo, running between New York and Savannah. This voyage usually takes three days out and five days return.

During the first trip out and back there was a constant movement of the gauge, amounting sometimes to as much as 8 or 10 pounds. Besides these we have certain other changes in pressure that probably occurred at the changing of the watch. During the next two trips the record is a marvel of accuracy. The fluctuations are so small that they literally run into each other and make a continuous line. The total rise and fall for both trips was only 5 pounds.

On the sixth trip the changes amount to as much as 7 or 8 pounds, caused, we find, by a change of hands and some other causes. On another trip we find more marked changes, and notice that heavy weather and poor coal have made a good deal more difficult. Toward the end of the tenth trip, however, a series of marked movements make a decided change in the character of the chart. It appears that a leak in the boiler made its appearance, and gave constantly increasing trouble. In the next run it became evident that it was difficult to keep the steam up and the average working pressure fell from 30-35 lbs. to 20-25 lbs. and at times even less. The vessel was immediately put upon the dock for repair.

The whole voyage is presented in a tabular form. It can be compared in a moment and at a glance with any other. No interest in one direction or another can warp the indications. The gauge is free from personal feelings, which may influence written log books. The gauge cannot be tampered with in any way, for all its parts including the stop-cock, are secured by the lock which closes the whole instrument.

This gauge is manufactured by the Recording Steam Gauge Co., 91 Liberty street, New York City. It is worthy of note that these instruments are to be carried hereafter on all steam vessels in United States waters, according to the provisions of the new law.



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SAN FRANCISCO:

Saturday, Sept. 9, 1871.

Our Weekly Crop.

We have placed at the entrance of our farm to-day something both useful and ornamental—one of Higgings' Improved Farm Gates—through which our visitors will find a ready ingress. We have just given a practical test of its utility by passing through it a drove of Oxen and Horses, which may be seen standing just within the enclosure. Passing through, ourselves, we proceed immediately to our seat in the library, where we spend the accustomed morning hour in search of the latest developments in the way of Science and Mechanical Industry. Having completed this task, we repair at once to the Farm, where we are introduced to a gentleman well versed in matters pertaining to farming both here and at the East, and from whom we are enabled to derive many useful Hints on Agriculture.

We once more examine our favorite Percheron, and on this occasion learn the origin and history of his family, and various other matters of general interest to The Horseman. We now turn our attention to the Horned Stock, and listen to an interesting discussion on the relative merits of the Short-horns and Devons. Returning toward the Farm House, we stop a moment to examine the Poultry Yard, where we find some things that are new, and much to interest. The usual Agricultural Summary of the week next arrests our attention, in perusing which we get a glimpse of what is going on in the way of farming throughout the entire Pacific Slope.

We next hear all about The Santa Clara Valley Fair, and learn of some novel and useful Inventions which have recently been Patented on this Coast. And here comes a gentleman all the way from New York with a newly patented device, called a Steam Recording Gauge, which will tell us what we have been so long trying to find out—just how much steam pressure there is upon a boiler at the moment of explosion, and how much steam has been carried during every hour of the passage of a steamer across the ocean. If we are not much mistaken this instrument will prove such a "telltale" as to cause engineers to be a little more careful in the future with regard to the variations of their steam gauges, a caution which will add much security to the lives and Good Health of all who may be exposed to the dangers of overworked steam boilers.

We now pass on to witness a few Agricultural Experiments, to examine some Blind Ditches, and learn some interesting facts which regard the progress of Agriculture in the Mountains. And just here we stop short to examine two other new California agricultural inventions—Andrew's Improved Gang Plow and Chrichton's Pruning Shears—the former lying at the root and the foundation of all agricultural operations.

We next read over the Market Reports, and then bid adieu to the ten thousand readers of the RURAL, until another Saturday comes around with a fresh supply of good things for old and young.

Agricultural Experiments.

We often hear people wondering why agricultural information does not keep pace with mechanical and scientific information, and berating the farmers as dumb-heads, drones, etc., for not keeping up with the world.

There seems to be a general impression that agricultural knowledge is more imperfect and more rude and unsatisfactory than the knowledge of most any other subject connected with the necessary and productive industries. We are not prepared to say that such is not the fact, on the contrary we believe it to be generally true and yet we do not believe that this is any argument to prove that the farmers, as a general thing, are inferior in intellect, in ingenuity, skill, or general aptness to learn—or less skillful and persevering in the application of their knowledge than other classes of people. The mechanics, and manufacturers of all kinds, from the very nature of their business are collected together in the towns, villages and cities where they see each other almost daily—talk over their business together—tell each other their daily experiences and experiments—make mutual suggestions, explanations, &c.; mind clashes with mind upon points connected with their business, and new ideas are gained and acted upon to the mutual advantage of both. They visit each other's shops—see each other's work—keep alive and active all the time the spirit of emulation and rivalry, and in this way constant improvement and discovery is induced. Indeed, the workshop of the mechanic, and the factory of the manufacturer, are great schools in which practical and useful information must all the time be accumulating and experiments may be reported for the purpose of settling all uncertain questions, a hundred times a day, a thousand times a week, and so on, limited only by the time required by each one.

Then again in all towns of any size there are public libraries where may be found books treating of most mechanical and scientific subjects, to which all who have occasion may resort to study up and decide any difficult question that may arise. On the contrary the farmer lives in the country in a measure isolated from those who are engaged in the same business as himself; his facilities for meeting his neighbors to compare notes and leave experiences are comparatively limited. He has not the facilities for consulting public libraries enjoyed by the mechanics in town, and what is more against him than all other circumstances combined his experiments, owing to the nature of his business, can only be repeated once a year. The seasons come and go once a year, and with those seasons comes and goes his seed time and harvest. In the spring he plants his corn and sows his wheat; if from any cause they fail he must wait until the following spring before he can repeat his experiment to learn what was the cause of that failure. So with most all agricultural operations, they can only be repeated, in kind, once a year.

It is true the farmer can always be learning something. Nature is a constant school and the fountain and source of all knowledge, even as agriculture is the foundation of all other productive industries. Agriculture is a great and inexhaustible science, and from the very nature of things we have to acquire a knowledge of it very slowly, and hence we are a great way from being its masters and shall be for a long time to come. For this very reason every farmer should embrace every opportunity and secure every means in his power for increasing his knowledge in the science in which he is enlisted as an experimental scholar.

An inch of rain falling on an acre of ground supplies it with 100 tons of water.

Blind Ditches.

There are a very few farms, even in this State, that would not be greatly improved by a proper system of drainage. Every sink hole where the water settles and stands until taken up by evaporation would be greatly improved if it could be drained. Many of these low places have become what we call "alkali spots." The soil has become compact and clammy, and hence dead and unproductive. It wants something to enliven it up and reclaim it. Such spots generally possess a greater amount of the fertilizing elements than any other land about them. These elements have been collected there by the water, but at the same time the water has concentrated too much of other ingredients, and thus rendered the fertilizing qualities dormant.

The blind ditch is the most effectual way to accomplish both these objects. Where stone is plenty they are generally used to make these ditches—sometimes tiles and lumber. In this country, especially in the great agricultural districts stones are scarce and lumber and stiles are too expensive.

A very good substitute for these materials is common oak brush, or any other kind of brush that will lay up light and last well under ground. Let the ditch be dug to the proper depth and of the proper size, then throw in the brush and settle it down well. Then cover with straw or weeds to prevent the dirt from falling into the crevices too much. This being done cover over with dirt.

We have seen ditches made in this way answer equally as well and fully as effective as those made with stone. Being entirely under ground the brush will not decay to do any harm for many years. Try it.

Queries for Mechanics.

EDITORS PRESS:—Following the idea suggested by Mr. E. H. Davies, in your issue of Aug. 12th, I beg leave to propound the following:

Why are the eyes made so small, and of a round shape, in striking hammers for drilling, and in rock breaking hammers?

Timber becomes very brash by exposure to our climate, and the frequent breakage of handles is a serious inconvenience. The eye of a hammer should be as wide as they are now made, and elongated, or of an oval shape, about the same as the handle, where it is grasped by the hand, except that it should be a little smaller. MINER.

THE VARIETY OF CASTOR BEAN BEST FOR CULTIVATION.—Mr. William Pfeffers, writes from San Jose as follows:—"One of your subscribers lately made some enquiry about the best kind of Castor Beans to cultivate. He is told that the big red kind is a worthless one. That is a fact, because the beans of that variety don't 'pop,' but must be picked out by the fingers—a very slow business; whereas the small grey kind matures earlier, and 'pops' freely, by the simple means of laying them some days in the sun before it is time for them to 'pop' in the plant. I have learned this fact from experience."

Our correspondent has the approved seed for sale. We should like to hear further from Mr. P. with regard to Castor bean culture—how it pays, etc.

CATALOGUE RECEIVED.—We have received several catalogues of Vick's celebrated Seed Warehouse, Rochester, New York, one of the most complete establishments of the kind in the world. One of the series received is devoted exclusively to an extensive collection of hardy bulbs.

We have also received several catalogues of Messrs. Ellwanger & Barry's celebrated Mount Hope Nurseries, of Rochester, New York.

THE YOLO COTTON EXPERIMENTS.—We understand that Chas. F. Reed, Esq., President of the State Agricultural Society, instead of the Railroad Company, is making the experiment in cultivating cotton at Knights' Landing, Yolo county.

Agriculture in the Mountains.

We learn from our exchanges that the crops throughout the mountains of our own and the adjoining states of Nevada and Oregon and the surrounding Territories, as well, are all that could be expected, even under the most favorable circumstances. Experience is fast demonstrating the fact that our mining regions may place themselves almost independent of the great valleys of this State for their agricultural supplies. Still, but very few of the fertile valleys in Idaho, Montana, Colorado and Utah, are under cultivation. Enough, however, has been done to show most unexpected and satisfactory possibilities in the more extensive and careful cultivation which will yet be reached. The streams running through these valleys, as a general thing, are large, never failing, and furnish an abundance of water for irrigation; and while the low lands will be generally devoted to fruit and root crops, that farther back and among the foot-hills is well adapted to grain of all descriptions, and still farther among the hills is found good grazing ranges for stock.

Such lands are becoming each year more and more valuable, as their capacities for cultivation are more generally made known. Fine root crops are being raised on such lands in Colorado even at an elevation of eight and ten thousand feet above the sea level. These facts have an especial interest to our mining population, which will thereby soon be enabled to secure the most of their supplies near home, and consequently at a greatly reduced cost, by means of the saving of transportation. But a small proportion of such lands, susceptible of improvement, have as yet been taken up, and thousands of acres in every mountain county this side of, and including Colorado, are yet open for location.

Practical experience has taught us that sage brush land, hitherto considered absolutely worthless to the farmer, is the very best kind of land for cereals, wherever it can be irrigated. Bright prospects are before all our mining counties, if they will only utilize, with diversified industries, all the advantages which they possess.

MR. L. P. McCARTY will next week commence a corresponding and business tour in California for the PRESS: We bespeak for him such friendly reception and courteous assistance as our friends have ever found it pleasant to mete out to our traveling assistants, while engaged in advancing the cause of industrial progress.

LARGE GRAPE.—We received last week, three large luscious bunches of Muscat of Alexandria grapes, from Pentland Bros., Knight's Ferry, Stanislaus Co. These gentlemen say that they heard of some one in Boston, who succeeded in raising grapes of the "enormous size" of three inches in circumference, by the use of chemical preparations. Of those sent to us, we measured one, which was 3¼ inches in circumference, and we may not have taken the largest, there being so many nearly alike. California will always excel as a grape-growing country, for larger and better vines can be raised here in the natural soil, than any where else with the use of chemical manures. If we are not mistaken, the large grape alluded to by our correspondent was raised by Dr. Nichols of the Boston *Journal of Chemistry*, on his farm at Lakeside.

PRESERVING LEAVES, ETC.—EDS. PRESS: Can you inform me through your paper, of any chemical process by which the green coloring of leaves may be preserved. I have noticed in the Fair in your city some wreaths by Mrs. Carpenter which look quite fresh. Cannot some of your many readers give us a process for thus preserving flowers, leaves, etc. I take the liberty of asking the question, as I perceive that your columns are always open for such information. A READER.

Petaluma, Sept. 4, 1871.

Andrews' Patent Gang Plow.

The accompanying engraving represents the "Plowboy's Pride," invented by Jas. H. Andrews, of Benicia, Solano Co., Cal., the patent for which was procured through the SCIENTIFIC PRESS Patent Agency. The improvement in this gang plow refers more especially to the device for elevating or depressing the plows, as desired.

By referring to the cut it will be seen that there are two foot-boards in front of the driver's seat. The plows are represented as being in the ground, and one of these foot-boards is depressed, as it would be in case the driver was plowing. On turning around or crossing a road or any obstacle, the foot is raised and the pressure put upon the other foot board, by which the plows are lifted by means of the levers shown in the engraving. The construction is very simple, and the manner of working is apparent to anyone who is familiar with the usual means of raising or depressing plows of this class.

These plows are easily worked, of light draught, and adapted to any character of soil. Improvements in implements of this kind are of the greatest benefit to the farmer, and in such a number of varieties as there are extant, everyone ought to be able to choose one to satisfy him perfectly. We doubt whether old Cincinnatus would have left a comfortable seat behind four horses, on a plow like this, with the same readiness that he did his old-fashioned crooked limb, with two handles like a wheelbarrow. His *amor patrie* would have been more severely tested had he been using one of these plows. Further information concerning this invention, can be had by communicating with James H. Andrews, of Benicia, Solano County, Cal.

ONE OF THE BIG TREES FALLEN.—A few weeks since, says the *Mariposa Gazette* of the 1st instant, there was a crash in the Mariposa Big Tree Grove, which was plainly heard at Clark & Moore's, five miles distant. On visiting the Grove it was found that the big tree named "Andy Johnson" had fallen. It had been noticed for two years to be leaning more and more to the south, or south-east, but it had preserved a certain show of stability, and its present humiliating condition of prostration and ruin was not anticipated. It fell in the direction it had been leaning, and the whole upper portion of the trunk from a diameter of eight feet to the top is broken and tossed about like the wreck of a mighty ship broken upon a surf. The wood at the fractures does not appear to be actually decayed, but has a very brittle and unreliable appearance, which taken in connection with its previous deviation from strict uprightness fully accounts for the sad fall and destruction.

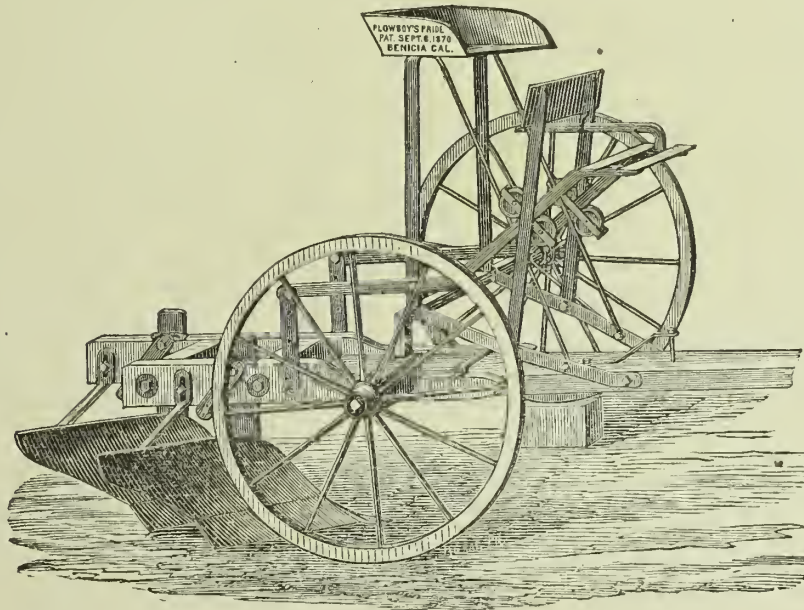
THE ASIATIC RINDERPEST.—Dispatches from Shanghai to the State Department show there is some possibility that the dreaded rinderpest, shut out from the United States by legislative enactments relating to the Atlantic seaboard, may effect an entrance on the Pacific coast. The disease is passing through Siberia to the Eastern shores of Asia. It is suggested that, as there is considerable traffic in skins between the extreme north of that continent and America, germs of the pest may be thus transmitted to the United States.

IMPORTANT LAND DECISION.—The Register and Receiver of the United States Land Office at San Francisco has rejected the application of the Southern Pacific Railroad for the approval of the list of lands within the lines of the twenty-mile grant to that road, which were included within the reservation for the Western Pacific Railroad Company, on the ground that such ground was exempted from the grant by the original Act, and also of the Joint Resolution of Congress under which the Southern Pacific Railroad Company claim. An appeal is to be taken from this decision, but the principle has been decided in other cases, and it is probable that it will result in restoration to settlement of a large amount of land in Santa Cruz and Santa Clara counties at an early day.

Creighton's Pruning Shears.

We present to our readers to day, an engraving of a most useful little tool, for cutting off the stems of flowers or fruits, and at the same time grasping them to keep them from falling. This will be especially useful in gathering grapes. The invention of agricultural implements in the United States is a source of wonder among people in Europe, from their variety and number, and the ingenuity displayed. Farmers now-a-days do their work with one-half the actual labor with which it was performed 50 years ago, from the facilities afforded them by the use of the numerous improved agricultural implements. Tools like the one shown in the cut become much more general in use than those of even greater importance, because they are usually within reach of all on account of their cheapness.

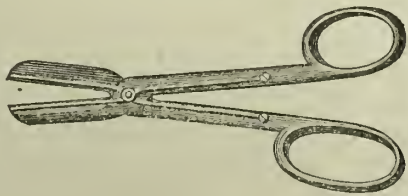
These pruning shears are merely an ordinary pair of shears, with the little apparatus for seizing the stems, fastened to the sides. The tool is made of two pieces of metal covering each other in the same manner as scissor blades, and the same bolt serves to fasten both the pinching apparatus and the blades. The handles



ANDREWS' PATENT GANG PLOW.

are secured by means of screws to those of the shears, so that they operate simultaneously, cutting and grasping at the same time. The gripping strength can be regulated by the length of the arms. The gripping tool can be readily removed and attached when desired, and being for the most part independent of the shears, is not liable to be broken.

By means of this little tool the planter may go among the vines, and cut and grasp the bunches of grapes at once, using only



one hand while the other is free. Its use will be readily appreciated by those who pick fruit for the market, or for the purpose of manufacture.

This useful implement is the invention of J. F. Creighton, Placerville, El Dorado county, and has been patented through the agency connected with this office.

STATE UNIVERSITY.—The next Term of the State University at Oakland, commences September 17th.

TWENTY-FIVE sheep were recently killed by a single stroke of lightning in Wisconsin.

NOTES AT THE S. F. MECHANICS' INSTITUTE FAIR.

[In these notes we have room only to notice briefly such articles as come specially under our observation. More replete descriptions of the most interesting and instructive exhibits will be given in the PRESS at our greater leisure hereafter. No classified catalogue being published we do not in this number give complete notices in any particular department.]

THE EUREKA EARTH CLOSET, exhibited by R. R. Strain & Co. is an improvement invented by Mr. Strain, one of our pioneer mechanics. Their manufactures include commodities as well as stationary dry earth closets, simpler, cheaper, and of better construction than any imported article from the East, where the use of such closets is being rapidly extended.

BLACK LOCUST WAGON HUBS from wood of California growth, are exhibited by E. Soule, an enterprising wagon manufacturer of Sacramento. His California made wagons are worthy of special attention.

THE "UNION DAIRYMEN" PATENT CHEESE VAT an apparatus for operating curd economically, will be explained by T. G. Anderson, agent, of Gilroy.

F. B. LAMB has an improved milk cooler, which we are satisfied is a good thing for

cacy in training alongside of the new fangled, dandy-looking arms of the present day, that can't speak half as loud as Daniel's "Old Trusty." The main spring, tumbler, and other operative parts of the old lock are on the outside and unguarded.

TAY'S PATENT WINDOW CURTAIN is one of the California inventions taken up by Eastern manufacturers. A. C. Austin represents it for the Meriden (Ct.) Curtain Co. The shades are held and adjusted by a simple arrangement of cords and double acting pulleys, so as to cover the whole, or any part of the window, as desired. Once introduced we believe it will be very popular.

CALIFORNIA MADE ROPE, of various sizes, and of the best quality comes from Messrs. Tubbs & Co.'s extensive factory on the Potrero. We recommend hay makers and all other rope users on the coast, to examine the goods at the warehouse, and keep their money as near home as practicable.

THE FRENCH GAS ENGINE imported by Mr. F. L. A. Pioche occupies a prominent place and affords power for the large Adams' press of the *Daily Fair Gazette*, published by Francis & Valentine. A charge of common illuminating gas, mixed with an equal quantity of air, is introduced into each end of the cylinder alternately, and discharged by connection with constantly burning gas jets at the proper moment by the working of suitable valves. It is quite a large but compact machine, and supposed to be an improvement on the Lenoir engine which has been worked successfully in the San Francisco *Daily Courier* office for several years. The gas in the latter is fired by electricity.

THE WIRE WORK of J. M. Eckfeldt & Co., comprises some very handsome rustic patterns of ornamental work for out door use.

NEW ZEALAND FLAX is shown by W. H. Webb, S. F., who can probably afford information and perhaps seed.

SALT LAKE CITY, through John W. Young, sends (besides rich minerals), samples of cotton, Camel's hair, and a fragment of Fremont's boat used on the lake in 1843-44.

PAPER UMBELLAS AND OVERCOATS, waterproof, are among the useful Japanese novelties. The coats are made of different colors and qualities with the appearance of being durable and suitable for wear, and without inspection would pass for oil cloth. Their raw material for making ropes, paper, and a fabric similar in looks to cotton cloth, appears superior, and in the land and hands of Yankees would doubtless be introduced throughout the world.

IF THE JONES PLOW is of as hard steel as claimed by its introducer from Naperville, Ill., Mr. O. C. Ely, it will become better known to our farmers.

A STONE TRUCK is shown with a self-acting ratchet which prevents the backing of its wheels when the handles are tilted up to receive the load. The wheels are free to move forward at all times, and backwards when the handles are not highly elevated. It is believed to be a new and excellent device. Mr. A. V. Smith, offers liberal terms for his patent for want of means to manufacture properly himself.

CHAS. O. FARCIOT exhibits an original and finely furnished lathe for small and precise work. Also his little wonder of a steam engine, made of Washoe silver and exhibited on the DAILY FAIR PRESS counter at the previous fair.

THE PACIFIC IRON WORKS exhibit cast iron pipe made (by their newly introduced method), in iron moulds, whereby its product is greatly cheapened. Their Wright's patent cut-off engine has now worked splendidly through two exhibitions.

TWO METALLIC BURIAL CASKETS exhibited by Craig & Son, inventors, were made

[Continued on page 156.]



Don't Forget the Old.

Don't forget the old folks,
Love them more and more,
As they, with unshrinking feet,
Near the "shining shore."
Let your words be tender,
Loving, soft and slow;
Let their last days be the best
They have known below.

Don't forget poor father,
With his failing sight,
With his locks, once thick and brown,
Scanty now, and white;
Though he may be childish,
Still do you be kind—
Think of him as years ago,
With his master mind!

Don't forget dear mother,
With her furrowed brow,
Once as fair and smooth and white
As the fresh young snow!
Are her steps uncertain?
Is her hearing poor?
Guide her gently till she stands
Safe at Heaven's door.

Wives Who are not Wives.

There are sad sights and plenty to be seen at any time under the sun, but none sadder, I think, than that of a virtuous wife undergoing the neglect of an alienated husband. Such sights are not at all rare. Any one who uses his eyes, in whatever society he moves, high, middle or low, will find them painfully frequent. There are many happy marriages—marriages indeed—over which love rules royally and absolutely until death forces the first and final separation. There are marriages in which man and wife share a mixed experience of sympathy and antipathy, of like and dislike, indifference and ardor; but, as happiness goes in life, rub through comfortable enough to the end. There are marriages, too, which are wrecked by the wife being silly or bad, or the husband vile or brutal. The world knows of these cases; they get paraded in the newspapers, and end with explosions in the divorce courts.

But besides all these, there are thousands of marriages which are such only in name—thousands of wives who are not wives. I cannot imagine anything more dreadful than the situation of a noble, loving woman, when she has discovered that somehow, and with no fault on her part, which affection should not overlook, she has lost and cannot regain the love of her husband. She loved him from the first so exclusively; she gave herself, all she was, and all she hoped to be, so unreservedly to him at the altar, and has since sheltered herself in him so completely that when the all-supporting stay of his love is withdrawn, she has no refuge left this side of heaven. She is so helpless in the matter. She wonders over and over again why the charm of her love, so potent once, is so unavailing now. She racks her memory to find what offence she can have given. She devises, lures to win him back. She trusts her goodness, truth and love, and patience will at last avail, and he will penitently return home more loving than ever. She shows a brave and smiling face to the world, makes no complaint, utters no cry and goes on dying, quietly bleeding at the heart.

Who does not know one or more such instances? I do not see what can be done about them. No law made already, or which could be made of woman casting her ballot, will reach these cases. No possible avenue of escape can be easy to such a wife. She can go away from her husband, but not from the misery he has caused her. Where, in all the world, is solace for the unrequited, affected, derided, despised, trampled under foot?

There is another road, steep of descent and ending in infamy, but no wife who ever loved her husband enough to suffer when he withdrew his affection from her, enters upon that.

But what shall be thought of the husband who, having won the love of a woman, and made her his own honorably by marriage, permits himself to become indifferent, then neglectful, then harsh and hard, and taking care to commit no offence which the law can punish or society can frown upon, persistently poisons her life

and destroys her happiness? Just this: he is a cowardly tyrant, destitute of the generosity, honor and chivalry of true manhood.

Friendships.

Some people wonder why it is that they possess no friends. They live in fine houses, dress in costly garments, appear in royal turnouts, and scatter their money with a prodigal hand, but somehow their neighbors shun them, and people of far less means are received and passed along in society from which they are excluded. The fault rests entirely with themselves. Ten to one if everything they do is not prompted by selfish motives, which are so apparent as to repel everyone except parasites and leeches. It is within the power of all to make and keep friends, if they will hold selfishness off at arm's length, and cultivate kindness of heart and gentleness of manner. "Gentleness," says Samuel Smiles, "is like the silent influence of light which gives color to all nature; it is far more powerful than the loudness of force, and far more fruitful. Little courtesies, which form the small change of life, may separately appear of little value, but they acquire an importance from repetition and accumulation. Affability and good breeding may even be considered essential to the success of a man in any eminent station and enlarged sphere of life; for a want of them has not unfrequently been found, in a great measure, to neutralize the results of much industry, honesty, integrity and force of character." We have but to act on the suggestion here thrown out, in order to surround ourselves with friends.

About Manners.

Perfect self-command is the best help to good manners. The example of the Quakers is commendable. They, when sitting down to meals remain a minute or two in silent prayer. Such a course checks laughter and unseemly conversation, and gives them an opportunity to start their conversation anew from vantage ground. Manners are great revealers of secrets. The changes in one's experience are manifest in their countenances, even if we are not always subtle enough to understand them. A lady loses much of her power when she endeavors to express undue admiration for an object. Be temperate in your approval, and we shall be credited with meaning what we express. Proper companionship is indispensable. A man who thinks well, will incite another's thought. No man can master in conversation who has not talked with women. Beware of jokes; they are inestimable for sauce, but poor for food. Things said for conversation are chalk eggs. Avoid talking shop or other forbidden subjects before company. Again, the great game is not to talk with those who know less than yourself, but rather tilt with those who are wiser than ourselves. We shall then be overthrown and learn true wisdom thereby. Do not look sourly at the club or society which refuses to admit you. If you really belong to the circle, the loss is theirs as well as yours, and when you once get admitted you will appreciate the barrier, and prize the rules as greatly as any of them.—*Emerson*.

THE ETHICS OF DRESS.—Imprimis. The first instinct about a new fashion is the true one. Don't wait till your eye has lost its accuracy and your judgment its edge. Subject the thing at once to the general rule, and bow to the decision.

Second. What suits one person does not suit another. Know thyself.

Third. Dress should supplement good points and correct bad ones. Thick and thin, long and short, are not all to be subjected to, on Procrustean style.

Fourth. Colors should be harmonious, should be massed—should be becoming. *Nest*, many little points or blotches of color sprinkled over a costume, produce a disagreeably piod and speckled effect, as of a monstrous robin's egg, or a plum-pudding. One tint should prevail, relieved by a contrasting tint. No amount of fashionable prestige can make an unbecoming color, becoming. "Nile green" will turn some people into oranges, though twenty empresses should ordain its adoption.

Fifth. Lines should be continuous, graceful and feminine. It is better to look like a woman (if you happen to be one), than like anything else—even a fashion plate.

Sixth. Ornament must be subordinate. Nature, with all her profusion, never forgets this fundamental law.

Seventh. Above all things, be neat.

Dainty precision and freshness is as essential to a woman as a flower.

Eighth. Individuality is the rarest and the cheapest thing in the world.

Ninth and lastly, "Stylish" is of all the words in the English language the most deadly. It has slain its thousands.

Driving Boys from Home.

Mothers who are disturbed by the noise and untidiness of boys at home must be careful, lest by their reproaches, they drive their children from home, in search of pleasure elsewhere.

"There are those balusters all finger marks again," said Mrs. Cary, as she made haste with a soft linen cloth to polish down the shining oak again. "George," she said, with a flushed face, as she gave the cloth a decided wrench out of the basin of suds, "if you go up these stairs again before bedtime, you shall be punished!"

"I should like to know where I am to go?" said George, angrily. "I can't stay in the kitchen, I am so in the way; and I can't go in the parlor for fear I shall muss that up, and now you say I can't go up to my own room. I know a grand place where I can go," he added to himself; "boys are never told they are in the way there, and we can have lots of fun. I'll go down to the corner grocery. I can smoke a cigar now as well as any boy, if it did make me awful sick the first time. They shall not laugh at me again about it."

And so the careful housekeeper virtually drove her son from her door, to hang about the steps and sit under the broad inviting portico of the village grog-shop.—*Portland Transcript*.

ADAPTATION OF BUSINESS TO WOMEN.—Health is to be derived from it. The ancients called the honey bee "Deborah, or she that speaketh." Would that its gentle hum might now speak to many women in our land, and awaken an interest in so interesting a pursuit and, at the same time, profitable one. Quick observation so requisite in business, belong peculiarly to women, and there is no part that may not be appropriately performed by them.

It has proved a great benefit. I came west twelve years ago, under sentence of speedy death from one of the best New Jersey physicians, but now rejoice in perfect health. More than to all other causes I attribute the change to the interesting occupation which has kept me so much of the time in the open air, and paid me for being there.

EMPLOYMENT OF GIRLS.—A writer in one of our exchanges says:—When girls are taught at the mother's knee, at the home fireside, in school, and in society, that it is as disgraceful for them to be loafers as it is for their brothers, we shall have girls demanding and getting that thoroughness of mental and technical training, which is needed in the legitimate and successful pursuit of any employment, and not before. We shall have a standard then for scholarship, and women will look upon education as something better than mental ruffles and furbelows, or as a mere means of enabling them to support themselves in genteel independence until they can marry, and we shall hear no more of lack of employment for women.

A GREAT WORK.—Many a discouraged mother folds her tired hands at night, and feels as if she had, after all, done nothing, although she has not spent an idle moment since she awoke. Is it nothing that your little helpless children have had some one to come to with all their childish griefs and joys? Is it nothing that your husband feels "safe" when he is away to his business, because your careful hands direct every thing at home? Is it nothing, when his business is over, that he has the blessed refuge of home which you have that day done your best to brighten and refine? O, weary, faithful mother, you little know your power when you say "I have done nothing." There is a book in which a fairer record than this is written over against your name.

LETTER WRITING. says Mr. Beecher, should be taught in schools instead of composition. There are few things more absurd than to set a child of ten or twelve years of age to the writing of a composition. But every child can be taught to describe familiar things, to use his senses sharply in observation, and to record accurately what he sees or hears or feels.

In France there are over three hundred colleges, not one of which admits women as students.

Young Folks' Column.

Never "Kill Time."

Never "kill time," boys. He is your best friend. Use him well. Don't let him slip through your fingers when you are young, as the beggar did. The days of your boyhood are the most precious you will ever see. The habits you get into will stick to you like wax. If they are good ones, life will be a pleasure, and above all, a success. You may not grow rich, but your life will be a real success, nevertheless.

If, on the contrary, you waste your early years, live for fun only, trifle with your opportunities, you will find after a while that your life is a failure—yes, even if you should be as rich as Cæsar.

One of the saddest things is to meet a man who has let golden opportunities go by him, just entering the battle of life, yet entirely unfit for his position. He is to be pitied, yet blamed. In this favored land every one can learn to read and write, for instance. But how often we meet young men utterly unable to write a dozen lines without making mistakes! Be assured, my young friends, it will be a source of shame to you as men, if you do not pay attention to education as boys.

The world is full of good books to read. You are surrounded with friends and relatives. Be warned in time, and coin happiness and honor in the future from the industry of the present, and you will not have read this page in vain.—*Merry's Museum*.

"SHOUTING PROVERBS" is a very interesting amusement for the young folks, which is described by the *Little Corporal* as follows:—One of the party having left the room, a proverb is selected, as "A bird in the hand is worth two in the bush." Then the words are distributed among the party. "A" is given to me, "bird" to another, "in" to a third, and so on, till all the words are used up. Then the outside member is called in. He says, "What is the proverb? One, two, three." At the word *three*, each shouts, and all together, the word which has been assigned him, so that every word in the proverb is pronounced simultaneously, making a medley of sound that is fairly bewildering. If the proverb is not guessed, the question is put again, "What is the proverb? One, two, three." And so the game proceeds till the proverb is guessed. If our readers wish to know whether or not this game is funny—fun being the main thing people seek in playing games, we advise them to try it and see.

AN EXAMPLE FOR BOYS.—The way in which Robert Bonner, the wealthy newspaper man, commenced to lay the foundation of his large fortune, is said to have been this:—He worked at the easo as a printer at \$8 per week, and wrote letters to country papers. When he had saved \$500 he bought the *Merchant's Ledger*, and now he owns Dexter, and J. Elliott, and Nebuchadnezzar, and Ramises the first, and ever so many nags. He has, besides, many city lots, two or three million in stocks and things, and an income of \$4,000 a week, on which he manages to rough it.

A TIMELY INVENTION FOR THE YOUNG FOLKS.—A new and timely toy has been invented by an ingenious mechanic of New York city, and will soon be on sale there. It is a miniature steamboat, the machinery of which, on being wound up, explodes by means of a spring, scattering portions of the boat and the little men, women and children, by which it is occupied, in every direction. The object of this pleasing toy is to familiarize children early with the contingencies of steamboat travel.

A LITTLE SCHOOL-GIRL in Massachusetts asked her teacher what was meant by "Mrs. Grundy." The teacher replied that it meant "the world." Some days afterwards the teacher asked the geography class to which this little "bud of promise" belonged, "What is a zone?" After some hesitation this little girl brightened up and said, "I know; it is a belt around Mrs. Grundy's waist."

"MOTHER," said a little girl who was engaged in making her doll an apron, "I believe I will be a Duchess when I grow up." "How do you ever expect to become a Duchess, my daughter?" her mother said. "Why, by marrying a Dutchman, to be sure," replied the girl.

A LITTLE boy, three years old, who has a little brother of three months, gave as a reason for the latter's good conduct: "Baby doesn't cry tears because he doesn't drink any water, and he can't cry milk."

DOMESTIC ECONOMY.

Delicious Summer Beverages.

Very few of our readers, we imagine, have any idea of what they are actually swallowing when they sip the "delicious summer beverages," which are served up, sweetened and toned by the various syrups in use. To those who are not pestered we commend the following:—

Butyric ether is the base of all fruit syrups. Butyric ether is made sometimes of rancid butter, though old rotten cheese is generally preferred, the loudest variety of Limburger affording the best quality of ether. The cheese is treated with sulphuric acid, and if a particularly nice and finely flavored ether is desired, a few chips of old leather are added. Any sort of leather will do, but old boots and shoes are preferred. Strawberry syrup is made of twelve parts of butyric ether, and one part of acetic ether, diluted with alcohol water. A pint of real strawberry syrup added to a gallon of mixture will improve the syrup, but it is not absolutely necessary; color with cochineal. Raspberry syrup is made after the same formula, except that a pint of real raspberry syrup is added, if the chemist has it. If not, he takes a jar of his strawberry syrup, colors a little darker, and changes the label. Sarsaparilla is the simplest of the syrups. Molasses is its base, with a little essence of sassafras and wintergreen added. A few roots of sarsaparilla "biled" in the mixture will do no harm and no good. Vanilla syrup is made of tonqua beans and fresh hay. Pineapple syrup is made of butyric and formic ether. Formic ether was formerly made by the action of sulphuric acid on red ants, but latterly is made of glycerine and soap. Peach syrup is made of bitter almonds and acetic ether. Twenty drops of oil of bitter almonds will kill a man. Nectar is formed by mixing various syrups and adding a little Madeira wine, the wine being compounded of neutral spirit, logwood, sugar and raisins. Lemon syrup is the purest that can be obtained. It is made of citric acid and sugar, with perhaps a few lemon peels. The citric acid is made of lemons. For people who are not particular what they drink, the above are "perfectly harmless" beverages.

Farmers and others who make their own beverages, have the satisfaction of knowing positively what they are drinking, besides getting them at a greatly reduced cost.

HOW TO KEEP A CHURN FROM FROTHING OVER.—Happening one day to visit the house of a friend who kept a cow and made butter, I there saw a simple method he used to overcome the great trouble of all butter-makers using the old-fashioned upright churn, viz: Take the body of the churn and cut a groove around the inside of the mouth, about three inches from the top; and three-eighths of an inch deep, and then remove half the thickness of the wood, making a shoulder all around; then take the cover and cut it to fit nicely inside, and you have now done away with all the old nuisances of cloths, tubs, pans, etc., heretofore required to save the cream that flowed over. Any man, almost can do this, or the churn may be taken to a carpenter and treated for a few cents. Many an idea of less consequence than this is patented, but all may take this one for what I gave for it.—*Home Journal*.

HOW TO CLEAN SMOKY WALLS.—A New Bedford correspondent of the *Hearth and Home* writes as follows: After trying various other expedients for cleaning walls that have been badly smoke-stained, I finally used a strong solution of common washing soda, purchased at the corner grocery-store; and although the smoke had struck through the "hard finish," he says he soon had the satisfaction of restoring the walls to perfect whiteness. The soda-wash can be successfully applied, he adds, either before or after whitewashing.

HOW BRIDGET MENDED THE STOCKINGS. We were amused the other day, says the *Portland Tribune*,—at a lady friend's account of the manner in which her Irish servant girl mended her stockings. When a hole appeared in the toe, Bridget tied a string around the stocking below the aperture and cut off the projecting portion. This operation was repeated as often as necessary, each time pulling the stocking down a little, until at last it was nearly all put away, when Bridget sewed on new legs, and thus kept her stockings always in repair.

Shaking the Table-cloth.

"Mercy on us! Carrie, where did all these pieces of bread and cheese, of cake and sandwiches, dried beef and pie, come from? Enough to make some hungry child a meal."

Carrie looked out of the window. It was her father who had spoken. He was standing on the icy pavement before the door, regarding her curiously.

"Oh," said she, "it is where I shook out the table-cloth."

"Where you shook out the table-cloth, my daughter!"

Carrie's mother was a very careful woman; but she had been sick a day or two, and the work had been done by Carrie.

Her father was all ready for a walk, his overcoat buttoned to the chin, his fur cap drawn over his ears, and an umbrella in his hand; but he turned and came back into the house and sat down. Carrie knew that a lecture was coming. Now, like most small girls and some large ones, she was not fond of lectures; but in the present case it could not be helped, and she knew she deserved it; so she submitted with the best possible grace.

"My daughter, if you want to grow up to be a careful, prudent woman, and do honor to your mother's training, you must be careful how you shake the table-cloth. Many a man, despite his hard toil and labor, has been kept a poor man for life, just because his wife did not know how to shake her table-cloth."

"If you want to have something to help the poor and needy, the aged and infirm, and such as are not able to take care of themselves, whom the Saviour said we should always have with us; and whensoever we would, we might do them good, be careful how you shake your table-cloth."

"If you want to have means to do good in any of the many ways that are always at hand; if you want to have something to lay by for a sick or rainy day; if you want to have money to buy books and magazines, that you may be able to store your mind with useful knowledge, be careful how you shake your table-cloth."

"In short, if you want, when you come to be a woman, and begin life for yourself, to have things comfortable around you, and be independent and enjoy a competence, you must be careful how you shake your table-cloth."

MIXED SALADS.—Salads are chiefly composed of lettuce, mustard, cress of various kinds, sorrel, parsley, green onions, the tops of young spinach, corn salad, mint, endives, celery, radishes, young beets, boiled beet-root, water cresses, etc. All or any of them should be fresh gathered, and when nicely trimmed, repeatedly washed in salt and water, and well drained. The smaller salads should be put in a clean cloth, and slightly shaken, but not pressed. They should then be arranged in a salad bowl; the celery, also divided, put in the center, and the smaller salads, such as radishes, mustard, and cress, placed between. When salad sauce or dressing is used, it should not be mixed with the salad, but put in the bowl first, the salad cut in small pieces and laid lightly over it, and the top ornamented with the boiled whites of eggs cut in rings, and slices of beet root; or the same may be served separately.

CRACKED WHEAT.—For a pint of the cracked grain, have two quarts of water boiling in a smooth iron pot, over a quick fire; stir in the wheat slowly; boil fast, and stir constantly for the first half hour of cooking, or until it begins to thicken and "pop up;" then lift from the quick fire, and place the pot where the wheat will cook slowly for an hour longer. Keep it covered closely, stir now and then, and be careful not to let it burn at the bottom.

Wheat cooked thus, is much sweeter and richer than when left to soak and simmer for hours, as many think necessary. White wheat cooks the easiest. When ready to dish out, have your molds moistened with cold water, cover lightly, and set in a cool place. A handful of raisins added with the wheat is nice. Eat warm or cold, with milk and sugar.—*Herald of Health*.

BLACK TEA.—Is best boiled five or six minutes. Use a little larger quantity of leaves, as they are lighter than the green. Some persons prefer the two kinds mixed; it makes a pleasant beverage. Use only the best teas. Souchong is considered the best black; the Hysons are the best green teas; Pearl and Imperial Gunpowder are very fine. Good tea has an agreeable odor. Keep it well protected from the air.

Domestic Receipts.

COLD DRESSED VEAL.—Mince fine the fat and lean of cold roast veal, season it with grated nutmeg, lemon peel, pepper and salt, moisten it with a little stock or gravy, and a beaten egg; butter a pudding pan, put in the mince and press it firmly; put on a close cover, set it in a pan of scalding water and let it boil an hour or two. Then turn it from the pan, rub it over with the beaten yolk of an egg, then sift on bread crumbs thickly, and brown in the oven, basting it occasionally with melted butter.

TO SAVE FRUIT WITHOUT SUGAR.—Put in wide-mouthed bottles; fill up with cold spring water. Put them in a vessel of water up to the neck; boil half an hour; tie bladders or oil skin over tight, or cork and seal while hot. Let them set until cold. Keep in a cool place. Use as soon as opened. Pack hay around while boiling, to steady them.

CRAB-APPLE PRESERVES.—Make a syrup of equal weights of sugar and apples. Let the apples simmer in water until their skins come off easily. Then remove the core with a sharp knife. Boil the apples in the syrup till tender; then spread them on dishes to cool. Afterwards put them in jars, pouring the syrup over them.

A SURE WAY TO REMOVE TEA STAINS.—Mix thoroughly soft soap; rub on the spots, and spread the cloth on the grass where the sun will shine on it. Let it lay two or three days; then wash. If the stain is not all out, it will disappear in the second washing. If the spots are wet occasionally while lying on the grass, it will hasten the bleaching.

HOP BEER.—Take one quart of hops, three quarts of wheat bran, and three quarts of molasses; boil them in three gallons of water for an hour. Strain the mixture; turn into pails or kegs; when lukewarm, add half a pint of yeast; let it ferment over night, and bottle next morning. Tie down the corks tightly, and in two days it will be fit to drink, and will keep so, if tightly corked. It is nearly as good as beer made with malt.

ROOT BEER.—Take spruce boughs, black birch bark, sarsaparilla, wintergreen leaves, sassafras, yellow dock, and dandelion roots; boil all together in a large kettle, with a handful of hops and two quarts of molasses. When boiled enough—two hours or so,—strain through a sieve, cool, and add a pint of yeast. If not very sweet to the taste, add more molasses. Let it work over night, and bottle. Secure the corks tightly, and it will foam well. The same can be made in larger quantities, and put into a 15-gallon cask, and worked from the bung-hole for a few days, but it would not foam so well as if bottled.

Mechanical Hints.

BLEACHING SHELLAC.—Boil any quantity of shellac in water in which borax has been previously dissolved. Continue the heat till not a particle of shellac remains whole, strain the liquor, and then pass through it very slowly a stream of chlorine gas from a heated retort, until the product becomes quite white, then slowly evaporate and wash the residue several times in cold distilled water.

GUMS FOR VARNISH.—It is stated that the most valuable gum for varnish making is obtained from Zanzibar. The next in value comes from Benguela, while a gum used for inferior qualities is known as Kowrie.

A HINT.—An English coach painter lately wrote to a brother residing in this country, asking of him, that he would ascertain what method American painters adopt in order to produce the brilliant finish which he had noticed on American coaches sent over to England. The reply was "The Americans build up a firm foundation, free from tackiness, and the finishing coat thereby retains all its brilliancy. At home you use every coating too elastic, from the priming up."

TO GIVE WOOD A GOLD, SILVER, OR LUSTRE.—Grind about two ounces of white beach sand in a gill of water, in which half an ounce of gum arabic has been dissolved, and brush over the work with it. When this is dry, the work may be rubbed over with a picco of gold, silver, or copper, and it will in a measure assume their respective colors and brilliancy. The work may be polished by a flint burnisher, but should not be varnished.

TO IMPROVE GILDING.—Mix a gill of water with two ounces of purified nitre, one ounce of alum, one ounce of common salt; lay this over gilt articles with a brush, and their color will be much improved.

LIFE THOUGHTS.

Be praised not for your ancestors, but for your virtues.

A MOTHER'S prayer will draw up from the depths of the sea.

A SMILE may be bright while the heart is sad. The rainbow is beautiful in the sea.

A FATHER'S blessing cannot be drowned in water, nor consumed by fire.

SELF-LOVE exaggerates our faults as well as our virtues.

MISERY leads to despair; aggrandizement to presumption.

To-morrow has no overflow to atone for the lost yesterday.

WE use riches as children use toys—to amuse us till we fall asleep.

HE who gives for the sake, of thanks knows not the pleasure of giving.

KNOWLEDGE raises us above the brutes but love erects us above ourselves.

MEN and women make the world, as head and heart make the human life.

A PERSON who undertakes to raise himself by scandalizing others, might just as well sit down on a wheelbarrow and wheel himself.

THERE is no funeral so sad to follow as the funeral of our own youth, which we have been pampering with fond desires, ambitious hopes, and all the berries that hang in poisonous clusters over the path of life.

THREE-FOURTHS of the difficulties and miseries of men, come from the fact, that most want wealth without earning it, fame without deserving it, popularity without temperance, respect without virtue, and happiness without holiness.

HE who has his brain full of grand theories may awe his friends with fine words and flourishes, and seem to be a great man, but if he makes no practical application of his theories, he would amount to more if he went to sawing wood and talk less.

Life Incident.

I once knew a lawyer, writes a lady, great in his profession and great as a man. He would pause on his way to the court house, where life and death, through God's permission, hung upon his words, to speak a word of comfort or counsel and give a needed dollar to an indigent beggar by the way-side; he would turn from a crowded court house, where hearts had laughed and wept at his bidding, and turn his steps homeward to romp and play with his children. Such a man I knew once. It was worth all of my life to have known him. This man died ere the full meridian of life shone upon his honored head, and I continued to know his widow. In course of years she married again, and raised up children by this marriage. It seemed to be quite a point with her to assure them that she loved their father full as well as the first husband. I thought I detected that this was as much to persuade herself as them, and felt curious to know the truth; so upon an occasion after she was done uttering these assurances I turned quickly to her and said:

"Suppose an angel were to appear now before you, and say, 'Will you have your first husband back? what would be your answer?'"

In an instant the tears gushed from her eyes, her voice trembled, and with arms outstretched to heaven she exclaimed:

"I would say, oh, give him to me! give, give him to me!" The next instant her hands fell beside her, her head dropped back, and, pale as death, she murmured, "It was cruel, Susan!"

This was after she had been married twenty-three years to the second husband, and gray hairs crowned her brow with their pure glory; and I give it to show how long such a man as I have described lives in the hearts of those left behind, in unabated love and honor. Oh, that earth possessed more such.

A WORD TO THE UNSUCCESSFUL.—Very few men are permitted to be successful; very few men are permitted to be wise; very few men are permitted to be eloquent; very few men are qualified to be statesmen; very few men are good for anything eminent; and even those that are eminent are men with like passions with every one else. Therefore be not discouraged because it is your lot to be in humble circumstances—because your work is insignificant in the eyes of men—because you are called to labor in obscurity. The time is coming when all earthly distinctions will be of very little account.

[Continued from page 153.]

in this city at Savage & Sons' Empire Foundry.

SPECIALLY WORTHY of mention are the designs and wood cuts of Crane & Curtis, young ladies deserving of the utmost praise for a noble example of usefulness and successful talent. The fine drawings on wood in their case are by their associate, Mrs. May Curtis Richardson.

A DOUBLE-SECTION SPRING BED, by R. J. Ordway, 1116 Market street, is a new invention and the most elastic sleeping apparatus yet out.

PICKS.—John Wright; shows his superior S. F. manufactured solid raised eye picks, viz:—drafting pick; drafting or quartz pick; surface or R. R. pick; pole pick.

J. H. CULVER has an ingenious machine for cutting twist mouldings rapidly, of various styles and sizes, and of any desired length.

AN AGRICULTURAL WREATH, by Mrs. J. D. Galloway, is a beautiful piece of fancy work, and shows how easily the most common things of nature can be wrought into beauty and elegance by skillful and tasty fingers.

WOODEN HORSE COLLARS.—This is a most useful and practical invention, the value of which is fully attested by a large number of farmers and others who have used it. Among the advantages which this collar is said to possess over those of the ordinary make, is the fact that it never changes its shape, always bearing where it was designed it should, and thereby avoiding the frequent cause of galls, sores, swellings, etc., resulting from the change of shape and bearing in stuffed collars. Wood moreover is a good non-conductor of heat, and is impervious to moisture—two important considerations in a horse-collar. It is easy to fit, and its length or width can be changed in a moment. It is fast being adopted into use by the government. Manufactured and sold by Wildman & Marble, No. 30 California street.

ARTIFICIAL STONE.—The Pacific Artificial Stone Co., under the Ransome patent, makes a fine display, suggestive of a new and important industry, that they have recently introduced upon this coast. They exhibit fountains, vases, steps, paving-stones of various colors and patterns, cemetery work, and building stone of diverse patterns, both plain and ornamental. The facility with which the sand of our hills is converted into the best and most durable kind of building stone, moulded with plastic to any form desired is truly wonderful. The stonework of the fine church now being constructed on Post street, is supplied by this company.

THE DRAWING of a hydraulic engine is shown by Chas. C. Rueger, one of our young mining educated Californians.

GARRATT'S STEAM CYLINDER LUBRICATOR can be better understood by examining the cut in our advertising columns, than by description here. Like its inventor and patentee, it is very popular with its familiar acquaintances.

N. SIEMERT'S EUREKA LUBRICATOR, is a meritorious California patented invention, handsomely manufactured by Weed & Kingwell, who have a creditable display of work from their Cal. Brass Foundry.

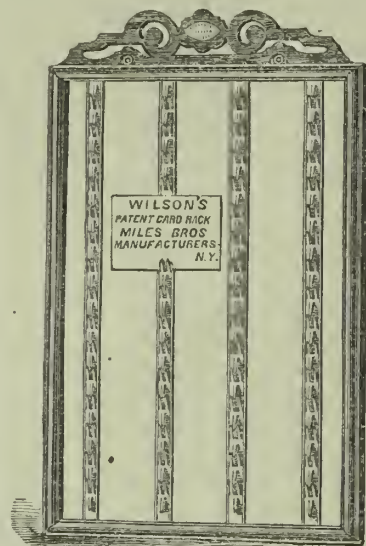
[To be continued.]

DAM DESTROYED.—The dam at the head of the Fresno Irrigation Company's ditch on King's river, above Centerville in Fresno county, was destroyed a few days since. We judge by the remarks of the Millerton *Expositor* that the destruction was an act of maliciousness, on the part of some unknown individual.

The Mechanics' Institute Fair closes in this city to-day. We shall publish premiums next week.

A Patent Card Holder.

The cards are held in the ornamental work or frame, here represented, by inserting their lower edges behind the spring points shown on the vertical parts of the frame. The holders are made simply by punching the points out of a sheet of thin



brass, which has spring enough in the metal to make the holding points elastic. The cards are all held so firmly, that jarring the frame, or a current of air will not disarrange them in the least. It is exhibited at the Mechanics' Fair, by Weister & Co., No. 17, New Montgomery street, who will sell frames or rights. Several novel card holders are sold in New York; but this seems to us the most desirable and one of the cheapest.

Award of Premiums at the Santa Clara Fair.

The following, among other premiums were awarded on the last day of the fair:—

FRUITS.—D. M. Harwood, San José, single bunch California grapes, premium; collection of foreign grapes, premium. B. S. Fox, San José, collection of apples, premium; collection of twelve varieties of apples, premium; collection of pears, premium; collection of nectarines, premium; collection of plums, premium; collection of currants, premium; collection of strawberries, premium; collection of pomegranates, premium. William Daniels, San José, pears, single variety, three specimens, premium. Charles Le Franc, San José, collection of wine grapes, premium. D. M. Harwood, San José, single bunch of foreign grapes, premium. S. B. Stockton, San José, collection of foreign grapes, premium.

NUTS.—S. Lonnar, San José, hard-shell almonds, premium. B. S. Fox, San José, best collection of nuts, premium, \$10.

CANNED FRUITS.—T. D. Appleby, San José, California pickles, first premium. Mrs. C. A. Porter, San José, exhibit canned fruit, six varieties, first premium.

PRESERVES AND JELLIES.—T. D. Appleby, preserves, premium. Mrs. Frank Lewis, jellies, premium.

GARDEN PRODUCTS.—D. E. Gish, San José, sack potatoes, premium. John McKune, San José, squashes, premium. Carlo Capelli, San José, onions, premium; all kinds of vegetables, premium. Jackson Lewis, tomatoes, premium.

SADDLERY AND HARNESS.—M. Stern, San José, takes six premiums on as many kinds of work. James Weatherhead's bridle-check is recommended by the Committee to owners of horses.

PLANTS AND FLOWERS.—Best collection hot-house plants, premium to L. F. Sanderson. Best collection hardy ornamental plants, premium to Wm. O'Donnell; fuschias and geraniums, premium to L. F. Sanderson. Plants all varieties, Wm. O'Donnell. Best assortment of cut flowers L. F. Sanderson; second best, T. D. Appleby. Two vase bouquets, L. F. Sanderson. Two parlor bouquets and two hand bouquets, L. F. Sanderson. Also, special premiums recommended to L. F. Sanderson, for his collection of ferns, which the Committee, "consider one of the most attractive features of the Fair."

AGRICULTURAL IMPLEMENTS.—W. T. Adel, San José, exhibit of blacksmith work, premium. D. J. Robb, San José, horse-

shoes, premium. Boyce & Topham, Milpitas, gang plow premium.

HAND TOOLS, ETC.—A. B. Hamilton, San José, Diamond Churn, premium. A. T. Sullivan, San José, washing machine, premium.

FARM PRODUCTS.—John Standfield, San José, sack wheat, premium. Carlo Capelli tobacco, premium. Matty & Columbet, exhibit of hams, bacon and lard, premium. William Hunt, Oakland, one sack Surprise oats, premium.

DAIRY PRODUCE.—T. D. Appleby, San José, California cheese one year old and over, premium.

South Africa Diamond Fields.

The special correspondent of the New York *World* writing from Du Tait's Pan, South Africa diamond fields, June 15th, says:

Du Tait's Pan, situated 20 miles south of Pniel, is turning out to be the largest and richest camp in the diamond district of South Africa. There are at least 15,000 white persons and 5,000 colored, making a population of 20,000 men, women and children, working at Du Tait's Pan and adjoining farms, De Been's and Bultfontein Diamonds are being dug out every day of from 1-16 to 20 carats in weight, and once a week one of over 50 and up to 100 carats in weight is turned out. Last Friday three diamonds, each weighing over 20 carats, were found at De Been's from three adjoining claims.

A Nest of Diamonds.

A mau named Neniemer has taken out forty diamonds, weighing 150 carats, from his claim. The hole that he has worked out is only about six feet wide and fifteen feet long and an average of ten feet deep, finding diamonds all the way down, the largest a twenty-three carat gem. Rawstone, my last year's partner at Pniel, purchased the adjoining claim for £110, and turned out an eight-carat gem the next day. I have started three companies working at Bultfontein and Du Tait's Pan, and last week they found nine diamonds. Two of the parties I have started walked up from Cape Town—600 miles. They have found two diamonds so far. Two other Americans, who have the adjoining claims, have taken out an eight and a seven and a quarter carat diamond in two weeks; being defective, they were worth only £100 (\$500) but that will do for a month's work, and only one-tenth of the claim worked out.

A 55.18 Carat Stone Worth \$75,000.

America beat them all last week. Mr. J. B. Hopkins, from Lockport, Pa., came to South Africa two months ago, and last Monday, the wind blowing so hard, causing thick clouds of dust so that no one could remain in their claims. Hopkins wandered out from camp and over the plain, and observing some garnets shining on the ground about a mile and a half from camp he dropped on his knee and elbow, and picking one up commenced to scrape for more, when a bright point came to view. Scraping under this, out popped a magnificent 55½ carat diamond, octahedron, flawless and speckless, of that peculiar straw color that is fashionable in England, and worth in the United States at least \$75,000. When it made its appearance Hopkins was paralyzed for a moment, and the diamond could have been taken from him without his having power to prevent it. He and I are partners now, and on the 4th of Sept. we leave for America, via Cape Town and England, with over \$100,000 worth of beautiful rough diamonds of all colors, shapes and sizes.

Americans on the Field.

There are about twenty Americans on the fields at present; their Post office is Klip Drift, South African Diamond Field. The names that I can remember are as follows: Isaac Sonnenburg who has a store at Jacobsdal and Du Tait's Pan, Dr. Blake and wife, Wm. C. Mills, F. B. Rickers, J. B. Hopkins, J. L. Babe, C. C. Campbell (who has brought me in a five-eight carat diamond just found); Mr. Lindley, Charles Timmis, Major Bedee, Mr. Smith, Mr. King, Wm. Burns, Mr. Walker, Mr. Parrish, Mr. Marshall, Dr. Winn, Mr. Sinclair and Mr. Baker—the three latter are near here with a steam engine and a sugar dyer, to be used in diamond sifting. As wood is exceedingly scarce and dear (\$20 a cord) they will not do much with their engine, I am afraid.

Farms—Wells—Prospects.

The farms have all been opened at 10s. 6d. a claim per month for mining; the Orange Free State Government take 5s. of this tax and the proprietors of the farms the balance. Wells have been sunk at different places throughout the camp, but have not struck water. In the "Pan" water was struck, but it was very salty. The

dam is getting very low, and water is now being hauled from a fountain five miles off.

These mines will most undoubtedly last for years, and there is working room for at least 100,000 people. It is becoming the general impression among geologists who are here, that this whole plain, 200 miles long by 100 in width, is the true matrix of the diamond.

The Town of Du Tait's Pan.

A town has been laid out at Du Tait's Pan, and around the public or market square numerous wooden and iron stores, hotels, billiards and whisky saloons and bowling alleys are being built. Saturday afternoon is devoted to auctions, of which there is half a dozen going at once. Provisions are cheap, and are auctioned off every morning by the market master in the square. California long-handled shovels are in demand, and can't be obtained; they would sell readily at from \$10 to \$15 each. There is a colonial duty on them; I do not know the amount, but I think 11 per cent. The weather is splendid, rather cold in the mornings and hot at noon.

The Largest and Best in America.

The Scientific Press,

Established in 1860, is now the Largest, Most Original, Best Illustrated and most Ably and Carefully Edited Practical Mining Journal on the Western Continent. Its contents are made up of fresh intelligence in a condensed and interesting style, easily appropriated by the reader, who finds its columns replete with new facts and ideas not obtainable in the books of the past or in any one other of the journals of the day.

Varied in its carefully compiled and conveniently arranged departments, representing the special and leading industries of the Pacific States—Mining, Mechanism, Manufacturing, Building, Improvements and Inventions—it becomes a weekly informant to all Scientific, Mechanical, Manufacturing and Industrial Progressionists on the coast, an immense list of whom testify to its pleasant, profitable and elevating influence.

The progress of our journal has been steady and unvarying. Encouraged by a liberal class of readers who exhibit their appreciation in a substantial way, we shall, with our increasing facilities, experience and information, make each coming issue superior to its predecessor.

Let every friend of Science and Industry on this side of the continent take pride, not only in sustaining, but accelerating the advancement of a faithful representative of its highest interests by subscribing for it and urging its patronage by others—now, without delay.

Subscription \$4 per annum, in advance.

Address

DEWEY & CO.,

Publishers and Patent Agents, 414 Clay St., S.F.

Fair Samples.

During the Autumn Fair Season it is the purpose of the proprietors to bring the attention of every person engaged in the line of industries represented by this journal, to the personal benefit to be gained by its patronage and regular reading. We are not only determined to print a superior paper, but are bound that people shall know it, see it, and learn its power of self-elevation and practical benefit, by experience.

To accomplish this we have concluded to print (perhaps weekly) during the Fair season, many extra papers as fair sample copies of the *PRESS* for gratuitous and judicious circulation amongst the very best class of citizens—i. e., the steady, industrial, intelligent and producing population. By this liberal means our regular circulation will be greatly extended, and the different individuals who will receive and critically examine the paper and its entire contents will aggregate an immense number during the next three months.

RURAL PRESS.—L. P. McCarty, traveling agent for the San Francisco "Rural Press," is now in this town soliciting subscribers and collecting statistics and other information for the paper. . . . The "Rural" is a large, well-conducted paper, containing a great variety of important information to the farmer, gardener, mechanic, or merchant, and we are pleased to see that it is attaining a large circulation throughout the State.—[San Joaquin Argus, Snelling,

Industrial Fairs for 1871.

CALIFORNIA.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The S. F. Bay Horticultural Fair begins on the 8th of August and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

COLORADO.

The Colorado Agricultural Annual Fair, at Denver City, commences September 12th, and continues five days.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, Thurs., A. M., Sept. 7th.

FLOUR—The export demand has been unusually large—mostly for China—reaching nearly 20,000 bbls. There has also been a good local demand at current rates, which we quote at a material advance over last week's figures, as follows:

Superfine, \$6.74@7.00; extra, in sacks, \$7.25@7.50. Standard Oregon brands, extra, may be quoted \$7.00@7.50.

WHEAT—The market which had become quiet, soon after our last review, again became excited at the appearance of speculators, and a further advance was noticed. An active enquiry continued even to the close. Sales were made on the 5th at \$2.25@2.62, within which range sales to the extent of 60,000 sacks are noted. We continue the same figures at the close. At these rates export trade must stop, notwithstanding the Liverpool advance, which now comes through at 12s. 2d—an advance since our last of 2d per cental.

BARLEY—Has remained very steady during the past week. Sales have aggregated about 17,000 sacks—mostly new, at \$1.80@1.97½. At the close we quote new at \$1.80@1.85, and old at \$1.95@1.97½.

OATS—Have met with a slight decline under more free receipts. Sales of 6,000 sacks are reported at from \$1.75@1.85 from fair to choice, which is a fair quotation at the close—very choice may be quoted at \$1.90.

CORN—The market has slightly improved. We quote at \$2.45@2.50.

CORNMEAL—Is quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—Still nominal at \$3.50.

RYE—In liberal supply at \$1.85@2.00.

STRAW—Quotable at \$8@9 by the cargo.

BRAN—Still continues at \$27.50.

MIDDINGS—For feed are now selling at \$37.50 and \$40@45 for fine—market firm.

OIL CAKE MEAL—Is quotable at \$40 from the mill, and in good demand.

HAY—Sale of 10 tons weedy Clover and wild Oat, \$12; 20 do fair Clover and wild Oat, \$15; a cargo of good wild Oat, \$18, and another at \$18.25. Choice wheat is quotable at \$20 per ton.

HONEY—We quote Los Angeles comb 12@15c., strained, 20c@24. Potter's in 2-lb cans. \$4.50 per doz.

POTATOES—The steamer from Half-Moon Bay brought 2,500 sks, part of which sold from the wharf at 75@85c. Mission are selling at 65@75c.

SWEET POTATOES—Are selling at \$2.00@2.50.

HOPS—We quote new at 25@30c.; crop of 1870, 10@12½.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9½c. Sales during the week 1,784 Cal. dry, and 1,900 salted.

WOOL—The market is weak and receipts more free as the season advances. Buyers are withdrawing from the market. Sales have been effected during the week of 65,000 lbs. at prices within the range of our quotations. We continue last week's rates as follows: Good to choice shipping grades, at 30@32½c., and burry to slightly burry, 25@26c per lb.

TALLOW—The extremes may be quoted from 9½@10c., with demand in excess of supply.

SEEDS—Flax 3@3½c., Canary, 8c., Alfalfa, 16c, Mustard 4@5½c. Receipts of the latter are very light.

PROVISIONS—California Bacon 14½@15c; Oregon, 15@15½; Chicago 14@14½c; Cal. Hams 14½@15; Oregon do, 14½@15c; California Sugar-cured Hams, 16@18c; Oregon do, 16@18c; Eastern do, 19@20c; California Smoked Beef, 13@14c.

BEANS—Are selling at the following rates: small White and Pea, 2@2½c; small Butter

2@2½c; large do, 2½@2¾c; Pink 1¾c; Bayo, 2½@3c per lb.

ONIONS—We quote red and yellow 60@85c. **NUTS**—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Pecan, 23@25c per lb., walnuts, 12@15c, Hickory, 12c; Brazil, 16.

FRUIT.

| | | |
|-------------------------------------|---------|---------|
| Tahitian Oranges, | \$25 00 | @30 00 |
| Limes, 1,000, | 10 00 | @ 15 00 |
| Australian Lemons, 100, | 5 00 | @ 10 00 |
| Sicily do, 100, | 10 00 | @ 14 00 |
| Bananas, 100, | 1 50 | @ 2 50 |
| Cocoanuts, 100, | 8 00 | @ 10 00 |
| Apples, | 30 | @ 1 00 |
| Pears, cooking, | 50 | @ 60 |
| Bartlett do, | 1 00 | @ 1 50 |
| Seckel do, 100, | 1 00 | @ 2 00 |
| Peaches, 100, | 75 | @ 1 50 |
| Choice Mountain do, 100, | 4 | @ 5 |
| Quinces, 100, | 75 | @ 1 00 |
| Raspberries, 100, | 12½ | @ 15 |
| Strawberries, 100, | 7 | @ 9 |
| Plums, 100, | 1 | @ 3 |
| Prunes, 100, | 3 | @ 6 |
| Blackberries, 100, | 4 | @ 6 |
| Figs, 100, | 7 | @ 8 |
| Grapes, Sweetwater, 100, | 2 | @ 3 |
| Mission do, 100, | 1½ | @ 3 |
| Rose of Peru do, 100, | 2 | @ 4 |
| Black Hamburg, do, 100, | 2 | @ 4 |
| Muscad of Alexandria do, 100, | 4 | @ 6 |
| Flame Tokay do, 100, | 5 | @ 8 |
| Isabella do, 100, | 3 | @ 4 |

DRIED FRUIT.

| | | |
|-----------------------|-----|-------|
| Apples, 100, | 10 | @ 11 |
| Peaches, 100, | 10 | @ 12½ |
| Apricots, 100, | 10 | @ 12 |
| Plums, 100, | 6 | @ 8 |
| Pitted do, 100, | 22½ | @ 25 |

VEGETABLES.

| | | |
|----------------------------------|------|--------|
| Cabbage, 100, | ¾ | @ 1½ |
| Garlic, 100, | 1½ | @ 2 |
| String Beans, 100, | 1 | @ 1½ |
| Summer Squash, 100, | 1 25 | @ 35 |
| Tomatoes, River, 100, | 37 | @ 50 |
| Bay do, 100, | 25 | @ 35 |
| Cucumbers, 100, | 1 00 | @ 1 25 |
| Green Corn, 100, | 12 | @ 20 |
| Watermelons, each, | 4 | @ 9 |
| Cantaloupes, 100, | 25 | @ 1 20 |
| Lima Beans, 100, | 1½ | @ 2 |
| Marrowfat Squash, per ton, | 8 | @ 8 00 |

FRESH MEAT—We quote slaughterer's rates, as follows:

BEEF—American, 1st quality, 8@9½c per lb. Do 2d quality 7@8c per lb. Do 3d do 5@6c per lb.

VEAL—Extremes, 7@9c.

MUTTON—6@7c per lb.

LAMB—May be quoted at from 8@9c per lb.

PORK—Undressed is quotable at 5@6½c. dressed, 8½@9c.

POULTRY—Live Turkeys, 18@20c per lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$3.50@4.00; Ducks, \$5.00@5.60 per doz. Geese, \$10@12 per dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 37½@42c; California firkin butter, 27½@32c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10@14c, Eastern, 12½@14½c. Eggs—California fresh, 40c.

LARD—California Lard, 11-lb tins, 14@15c; Oregon in bbls. 14½c; Eastern do. 13@14½c. in bulk, and 14½@15c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

TABLE OF MISCELLANEOUS.

| | | |
|-------------------------------|-------|--------|
| Sugar, crsh'd, 100, | \$14½ | @ \$15 |
| Hawaiian, do, 100, | 12 | @ 15 |
| Coffee, Cos. R., 100, | 15½ | @ 16 |
| Rio, do, 100, | 16 | @ 16 |
| Tea, Japan, 100, | 50 | @ 60 |
| Green, do, 100, | 50 | @ 60 |
| Rice, Haw'n, 100, | 8½ | @ 9 |
| Clinch, do, 100, | 6 | @ 7 |
| Coal Oil, 100, | 60 | @ 65 |
| Candles, 100, | 15 | @ 18 |
| Hemp Seed, 100, | 7 | @ 9 |
| Castor Beans, 100, | 4 | @ 4½ |
| Castor Oil, gal., 100, | 1 75 | @ 2 00 |
| Linseed Oil, gal., 100, | 1 05 | @ 1 10 |
| Broom Corn, 100, | 3 | @ 5 |
| Beeswax, 100, | 27 | @ 30 |
| Peanuts, 100, | 5 | @ 7 |
| Corn Meal, cwt., 25, | 1 50 | @ 1 50 |
| Onions, cwt., 100, | 50 | @ 50 |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, September 7.

SOLE LEATHER—Eastern shipments still keep the market firm and the demand good.

City Tanned Leather, 100, 26@29 |

Santa Cruz Leather, 100, 26@29 |

Country Leather, 100, 25@28 |

Leading French stocks have declined slightly. California kips are higher and in demand.

Jodot, 8 Kil., per doz. \$60 00@ |

Jodot, 11 to 19 Kil., per doz. 80 00@ 85 00 |

Jodot, second choice, 11 to 15 Kil., per doz. 65 00@ 88 00 |

Leomene, 10 to 13 Kil., per doz. 55 00@ 60 00 |

Levin, 12 and 13 Kil., per doz. 68 00@ 70 00 |

Cornellian, 12 Kil., per doz. 72 00@ 70 00 |

Cornellian, 16 Kil., per doz. 65 00@ 70 00 |

Ogerau Calif., 100, 51 00@ |

Robert Calif., 7 and 8 Kil., 45 00@ 40 00 |

Common French Calif. Skins, 100, 35 00@ 75 00 |

French Kips, 100, 1 00@ 1 30 |

California Kip, 100, 60 00@ 75 00 |

Eastern Wheel Stuffed Calif., 100, 1 00@ 1 25 |

Eastern Bench Stuffed Calif., 100, 1 10@ 1 25 |

Eastern Calif. for Backs, 100, 1 15@ 1 25 |

Sheep Roams for Topping, all colors, 100, 8 00@ 13 00 |

Sheep Roams for Linings, 100, 5 50@ 10 50 |

California Russet Sheep Linings, 100, 1 75@ 5 50 |

Best Jodot Cut & Boot Legs, 100, 5 25 |

Good French Calif. Boot Legs, 100, 4 50@ 5 00 |

French Calif. Boot Legs, 100, 4 00 |

Harness Leather, 100, 30@ 37½ |

Fair Bridle Leather, 100, 48 00@ 72 00 |

Shirting Leather, 100, 30@ 35½ |

Welt Leather, 100, 30 00@ 50 00 |

Buff Leather, 100, 17@ 21 |

Wax Side Leather, 100, 18@ 20 |

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San Francisco Retail Market Rates.

FRIDAY, September 8, 1871

| MISCELLANEOUS. | | Wool Sacks, new | |
|----------------------|---------|--------------------|----------|
| Butter, Cal. fr. lb. | 45 @ 50 | Second-hand do | 67½ @ 70 |
| Pickled, Cal. lb. | 40 @ 45 | Wheat-sks, 22x36 | 12 @ 13 |
| do Oregon, lb. | 40 @ 45 | Potato G's Bags | 22 @ 23 |
| Honey, 1 lb. | 25 @ 30 | Second-hand do | 15 @ 16 |
| Cheese, 1 lb. | 20 @ 25 | Deer Skins, 1 lb. | 15 @ 22 |
| Eggs, per doz. | 45 @ 50 | Sheep skins, 1 lb. | 12½ @ 15 |
| Lard, 1 lb. | 18 @ 20 | Sheep skins, plain | 12½ @ 15 |
| Sugar, car, 6½ lb. | 10 @ 13 | Goat skins, each | 25 @ 50 |
| Brown, do, 1 lb. | 10 @ 13 | Dry Cal. Hides | 18 |
| Beet, do, 1 lb. | 10 @ 13 | Salted do | 9½ @ |
| Sugar, Map. lb. | 25 @ 30 | Dr. Mex. Hides | 15 @ 18 |
| Plums, dried, lb. | 15 @ 25 | Salted do | 9½ @ |
| Peaches, dried, 15 | @ 20 | | |

| PRODUCE, ETC. | | Barley, cwt. | |
|--------------------|-------------|----------------|--------------|
| Codfish, dry, lb. | 6 @ 12½ | Beans, cwt. | 2 50 @ 3 25 |
| Flour, ex, 100 lb. | 67 75 @ 75 | Potatoes, cwt. | 60 @ 1 00 |
| Superfine, do | 60 @ 70 | Hay, per ton | 20 @ 21 00 |
| Corn Meal, 100 lb. | 63 25 @ 65 | Lave Oak Wood | 9 00 @ 10 00 |
| Wheat, 100 lbs. | 2 20 @ 2 25 | | |
| Oats, 100 lbs. | 1 50 @ 2 10 | | |

FRUITS, VEGETABLES, ETC.

| | | | |
|----------------------------|------------|--------------------------|-----------|
| Pine Apples, 100, | 5 @ 10 | Cabbage, 100, | 75 @ 1 50 |
| Bananas, 100, | 3 00@ 3 50 | Carrots, 100, | 10 @ 25 |
| Cal. Walnuts, lb. | 20 @ 25 | Celery, 100, | 75 @ 1 00 |
| Cranberries, 100, | 75 @ 1 00 | Cress, 100, | 20 @ 25 |
| Crabapples, 100, | 10 @ 15 | Dried Herbs, 100, | 25 @ 50 |
| Apples, Early, 100, | 50 @ 100 | Egg Plant, | 6 @ |
| Red June, 100, | 50 @ 100 | Garlic, | 5 @ 8 |
| Pears, table, 100, | 65 @ 125 | Green Peas, 100, | 20 @ 25 |
| Plums, Cherry, 100, | 7 @ 15 | Sugar Peas, 100, | 20 @ 25 |
| June, 100, | 10 @ 12½ | Cucumbers, doz. | 15 @ 25 |
| Apricots, 100, | 3 @ 4 | Lettuce, 100, | 12 @ 25 |
| Raspberries, 100, | 15 @ 20 | Green Peas, 100, | 25 @ 50 |
| Strawberries, 100, | 18 @ 20 | Hoseradish, 100, | 20 @ 25 |
| Blackberries, 100, | 15 @ 20 | Okra, dried, 100, | 50 @ |
| Oranges, 100, | 30 @ 40 | Okra, green, 100, | 12½ @ |
| Lemons, 100, | 50 @ 60 | Pumpkins, 100, | 3 @ 4 |
| Limes, 100, | 25 @ 30 | Mushrooms, 100, | 10 @ 25 |
| Figs, dried, 100, | 25 @ 30 | Parsley, 100, | 25 @ |
| Asparagus, wh., 100, | 12½ @ | Pickles, 100, | 50 @ 75 |
| Apricots, 100, | 6 @ 10 | Rhubarb, 100, | 6 @ |
| Artichokes, doz. | 5 @ 75 | String Beans, 100, | 6 @ 8 |
| Russas, 100, | 15 @ | Onion, 100, | 6 @ 8 |
| Beets, 100, | 2 @ 25 | Spinage, 100, | 25 @ 50 |
| Potatoes, 100, | 4 @ 5 | Salsify, 100, | 12 @ 25 |
| Broccoli, 100, | 5 @ 10 | Turnips, 100, | 25 @ |
| Caulliflower, 100, | 1 @ 10 | New Tomatoes, 100, | 5 @ 8 |

POULTRY, GAME, MEATS, ETC.

| | | | | | |
|-------------------------|----|-----------|-------------------------|-----|-----|
| Chickens, apiece | 50 | @ 75 | Bacon, Cal., 100, | 18 | @ |
| Turkeys, 100, | 20 | @ 25 | Oregon, do | 18 | @ |
| Ducks, wild, 100, | 1 | 50 @ 1 75 | Hams, Cal., 100, | 18 | @ |
| Game, 100, | 1 | 50 @ 1 75 | Choice D. 100, | 10 | @ |
| Geese, wild, each | | | Whittaker's | 10 | @ |
| Tame, 10 pair, 2.50 | | @ 3 00 | Johnson's Or. | 10 | @ |
| From Chicago, | | | Salmon, 10 lb. | 6 | @ |
| Geese, each, | 75 | @ | Smoked, new, 100 | 10 | @ |
| Snipe, 10 doz. | | | Pickled, 100, | 10 | @ |
| English, 10 doz. | | | Rock Cod, 10 lb. | 10 | @ |
| Quail, 10 doz. | | | Kingfish, 10 lb. | 10 | @ |
| Guinea, 10 doz. | | | Perch, 5 water, lb. | 8 | @ |
| Geese, dom. doz. | 00 | @ 3 50 | Fresh water, lb | 12 | @ |
| Wild, do. | 1 | 50 @ 2 00 | Lake Big Trout* | | |
| Geese, each, 50 | 50 | @ 1 00 | Herring, 100, | 6 | @ |
| Wild, do. adz. 75 | | @ 2 00 | Trout, 100, | 10 | @ |
| Guinea, 10 pair, 25 | | @ 30 | Sm'kd, per 100 | | @ 1 |
| Geese, 10 pair, 20 | | @ 25 | Tomcod, 10 lb. | 25 | @ |
| Geese, 10 pair, 20 | | @ 25 | Terrapin, 10 doz. | 3 | @ 1 |
| Sirloin and rib | 18 | @ 20 | Mackerel, p.k, ea | | |
| Corned, 10 lb. | 10 | @ 12 | Fresh, do. | | |
| Beef, 10 lb. | 12 | @ 15 | Halibut, 100, | 12 | @ |
| Beef, 10 lb. | 12 | @ 15 | Halibut, 50, | 50 | @ |
| Beef, 10 lb. | 12 | @ 15 | Sturgeon, 10 lb. | 4 | @ |
| Beef, 10 lb. | 15 | @ 20 | Oysters, 100, 1.00 | 100 | @ 1 |
| Beef, 10 lb. | 15 | @ 20 | Chesp. 10 doz. | | @ 1 |
| Beef, 10 lb. | 12 | @ 15 | Turbot, | 50 | @ |
| Beef, 10 lb. | 12 | @ 15 | Salmon, 100, | 10 | @ |
| Beef, 10 lb. | 12 | @ 15 | Soft Shell, | 37 | @ |
| Beef, 10 lb. | 12 | @ 15 | Shrimps, | 10 | @ |
| Beef, 10 lb. | 12 | @ 15 | Pompio, 10 lb. 1.00 | | @ |

* Per lb. † Per dozen. * Per gallon.

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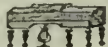
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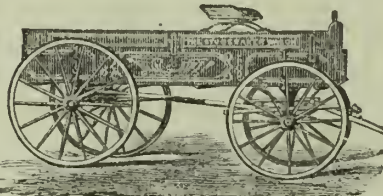
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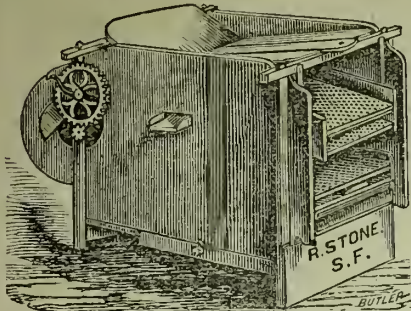
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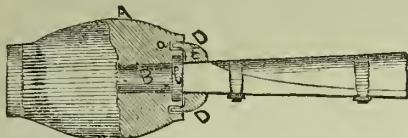
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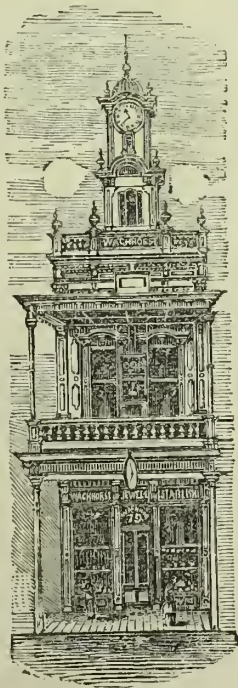
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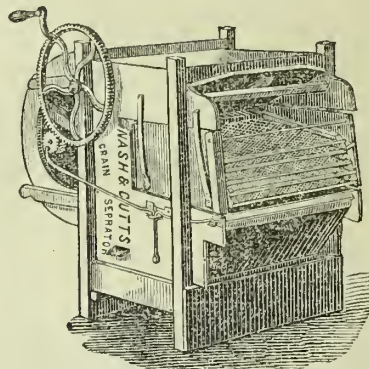
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Complete Sets Carpenters Tools, 4 Sets Light Harness,
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glazed, 100 Kegs Nails, 1,000 pounds paint, 60 gallons
Oil, 500 000 Mulberry Trees, 500,000 Grape Vines, 5,000
Fruit Trees in Variety, 200 Sacks Flour, 400 Bushels Po-
tatoes, 300 Bushels Indian Corn, 60 Draft Horses, 30
Cows and 20 Hogs.

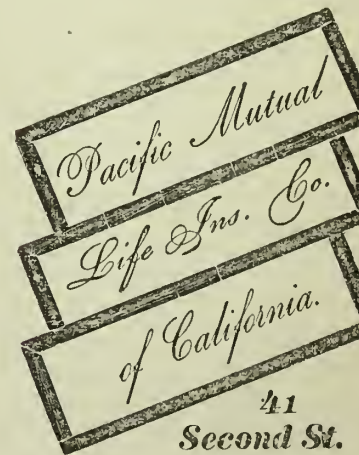
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No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.

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As soon as signed and returned to us with the fees then due us, it will be sent straightway to the Patent Office at Washington.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separated ingredients, sufficient to make the experiment (unless they are of a common and well-known character), and also of the manufactured article itself, must be furnished, with full description of the entire preparation.

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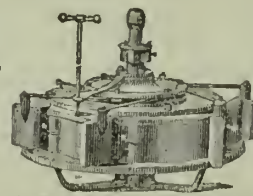
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LIBERAL SPECIAL PREMIUMS for all worthy articles not named in list. Exhibition divided into seven distinct departments, and a Gold Medal to be awarded to the most meritorious exhibition in each department. Competition open to all the States and Territories. A **GRAND PLOWING MATCH** between steam, gang and single plows is already fixed upon. Machinery of all kinds will be exhibited in motion, and the Silk business will be represented and explained. The Horticultural Exhibition will be composed of fruit from some twenty different States of the Union. The extensive and elegant assortment of Japanese and Chinese goods will be shown at the State Fair. All goods will be carried to and from the Fair by the railroads and steamboats free of charge, and passengers for half price. Applications for stalls at the Park, or space in the Pavilion, should be made to the Recording Secretary at once; and all stock or goods for exhibition should be on the ground by FRIDAY or SATURDAY, the 15th or 16th of September.

The Hon. T. G. PHELPS has consented to deliver the Annual Address. The Opening Address will be delivered by the President.

By order of the Board. **CHAS. F. REED,** President. Ront. Beck, Recording Secretary. an26-4w

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FRUIT AND ORNAMENTAL,
For Autumn of 1871.

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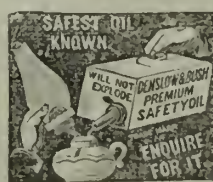
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Volume II.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 16, 1871.

[Number II.]

The Celebrated Horse "Lodi."

We present a finely drawn and executed engraving of this celebrated racing horse, whose best time we believe has been beaten only by his competitor, Norfolk, and then by less than a full length. We allude to the three-mile heat at the State Fair, in Sacramento, September 23d, 1865, which was made in 5:27½; and the last mile in 1:47½. He carried at that time a 110 lb. rider. At that trial, Lodi suffered from a quarter crack in one of his fore hoofs, from which the blood spirted freely. His color is dark brown, and, as truthfully shown (by our own engraver) he is of beautiful figure. Having spent the best of his eleven years in this State, he is too well known to Californians to need any lengthy description in this connection.

Lodi's pedigree is by Yorkshire out of Topaz by Glencoe. He is now owned by Mr. Nathan Coombs, a wealthy and progressive farmer of Napa, Cal., who will enter this general favorite at the State Fair next week.

Our drawing is reduced from an oil painting, by D. H. Woods of Sacramento. We hope to follow this publication with portraits of other celebrated animals on this coast, thus giving the first series of finely engraved and printed illustrations of home stock in the Pacific States.

THE RURAL PRESS AMONG THE MINES.—It is a source of no little gratification to the publishers of this paper to learn that it is so highly appreciated by the farmers and ranchmen in the various mining districts of the Pacific coast. We have a large and rapidly increasing circulation in these localities, and shall endeavor in the future to pay more attention to the particular wants of such readers. In order to enable us to do so, we solicit the aid of those who have had experience in such localities. We want the practical experience of mountain farmers, who have been long in the business, for the benefit of new comers.

We have before us a letter from a farmer in Humboldt county, Nevada, who has lately become a subscriber, and who writes: "I think it is just the kind of paper needed here by our ranchmen and stock raisers." Our correspondent is particularly anxious for information in relation to grain, grass, and stock raising, and timber culture. We have already given many hints upon these subjects through the columns of the Press, and shall add more in the future.

CHANGING SEED FOR POTATOES.—An old-time practice among the best of farmers has been that of yearly changing the seed of the potato by an exchange of the same variety and quantity with some one whose soil varied in being either heavier or lighter. A recent publication of Mr. W. Patterson, of Dundee, Scotland, of a series of experiments carried on through many years, gives as results, deterioration in size of tuber and greater liability to disease when the same seed is grown a second season on the same ground.

The Wheat Market.

The large advance in the price of wheat at Liverpool, of eight pence during the past week and one shilling in two weeks, has had the effect to stiffen and slightly advance the price of wheat in this city, although the rates here are considerably above the Liverpool market, being equal to 14s. in Liverpool, and of course beyond any present probable demand for exportation. The improved prices, however, have had the effect of stimulating receipts here, and have produced a more general inclination to sell than at any previous time since the new crop began to come in.

The late important advance in Liverpool is indicative of diminished confidence in the European crop; still it is hardly time yet, to pronounce definitely upon the yield.

Visit of Scientists to California.

The American Association for the Advancement of Science has accepted the invitation of the California Academy of Sciences to meet at San Francisco next year, upon the condition that arrangements can be made which will enable the best scientific men of our country to get across the continent. Scientists are seldom much blessed with an abundance of this world's goods; hence the necessity for the above conditions. If this body of scientists hold their next meeting in this city, they will be accompanied hither by a number of distinguished European savans, among whom will be numbered Tyndall, Huxley, and others. Their meeting here would be an important and a memorable one, and one which cannot fail to be of vast benefit

Montana Wheat.

The Selection of Seed.

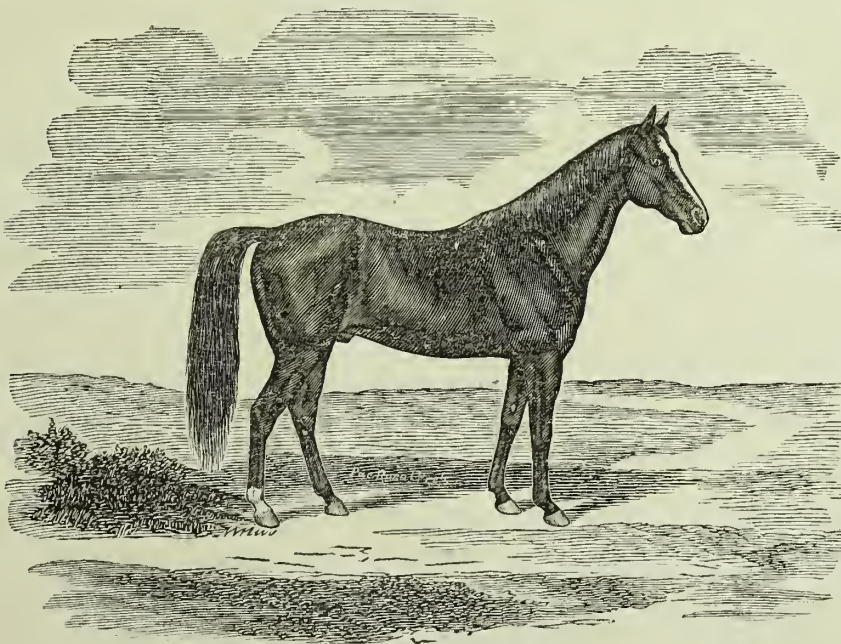
The Deer Lodge *Independent*, of a late date, alludes to a very fine field of wheat, containing six acres, belonging to C. H. Manning, which that paper thinks "is perhaps the best kind of wheat in the United States." The history of this wheat is rather peculiar, and is given as follows:

"Four years ago, Mr. Manning noticed a few heads of singular wheat that came up among his other grain, which heads, containing six rows of large, white, plump grains each, he carefully preserved. From these heads last year he raised forty bushels, and this year will, from six acres, have about fifty bushels to the acre. The flour is of the very best quality, as can be seen at Mr. Manning's house. It is supposed that the seed of this extraordinary wheat must have been dropped on Manning's ranch by wild geese, while flying over, as no such grain is known anywhere else in the territory."

If all farmers would be as observing and careful in the selection of seed as Mr. M. was in the above instance, we should soon see a great improvement in every description of farm produce. Nearly all the best varieties of the cereals have been originated from a few ears of extraordinary size and quality gathered by intelligent observers at harvest time, and propagated from until large quantities of seed were obtained. The potato oat, which turned out to be a most valuable variety, was originated by a gentleman of Cumberland, England, from a single plant of an extraordinary size and weight found growing in a potato field. The most approved varieties of wheat bear the name of some intelligent farmer who originated them. The Chevalier barley, a most excellent variety of that cereal, was named after M. Chevalier, a French agriculturist, who originated it by selecting the finest ears in a field of barley at harvest time. A vast improvement of seed and a consequent increase of acreable produce might very easily be effected, if farmers would annually select the best ears of the cereals at harvest time and propagate from them. Indeed, the acreable produce of all kinds of crops may be greatly increased by selecting and using the best seeds and cultivating with especial care.

THE PHILOSOPHY OF FEEDING.—All the profit in feeding animals, remarks Joseph Harris in *Hearth and Home*, comes from the food eaten over and above what is needed to sustain the vital functions. With a poor quality of hay a cow is not unfrequently kept through the winter without gaining a pound or giving any milk. She can only eat enough of this nutritious food to sustain the vital functions. But furnish her daily with four quarts of corn meal, and she will either give considerable milk, or, if dry, gain in flesh and fat, and next summer this accumulated flesh and fat will find its way to the milk-pail, and be converted into cheese and butter.

BEES are now sent by mail, confined in a square block of wood, with auger holes bored in it and covered with wire gauze.



THE CELEBRATED CALIFORNIA HORSE "LODI."

Enough, however, is known to render it certain that this will be a year of high prices for bread stuffs, in Europe, to be accompanied, in all probability, by an advance in the value of money there.

The millers here are now pretty well supplied with wheat, and sellers, just now, are more numerous than buyers. There is a demand for grain from Australia, at a figure a very little below present rates. The advices from China are also indicative of a continuance in the demand there for flour, if rates are not further advanced. There is also a demand for flour for Havro direct and for Liverpool, from which port a cargo of 28,000 quarter sacks has been dispatched the past week.

The receipts of California grain, thus far, are smaller than for any previous year, since 1865. The quantity to come forward is probably about half what it was last year, and the disposition to hold back is not warranted by any present or probable prices in the English or any other market.

to the State. Governor Stanford, of the Central Pacific Railroad, will issue tickets at half price, and it is supposed that other railroads at the East will do the same. About \$7,000 will be required for the balance of the travelling expenses of such, as it may be desirable to present with free tickets, and to meet such incidentals, while here, as may be required to enable the Academy to do its duty handsomely to its visiting brethren. It is to be hoped that some of our "solid men" will come forward with the needful, and secure for our city and State this much to be desired visit.

THE MESQUIT BEAN CROP of Western Texas, it is reported, is very large this year, equalling the great crop of 1860. At present, every tree and bush is bonding under the weight of the beans, upon which the horses and cattle are feeding with great relish. This mesquit bean, it is said, makes excellent winter food for stock, and many persons are collecting them for that purpose.

MECHANICAL PROGRESS.

The Preparation of Fancy Soaps.

Fancy soaps, which are made in great variety for the toilet, are usually scented with some aromatic oils. For this branch of the trade the ordinary commercial soaps are used, after undergoing a process of refinement; or a soap is specially made for the purpose from almond oil, or the like. Much taste is shown by the best London makers in the selection and combination of the perfumes, which, along with the coloring matter, such as vermilion, yellow ochre, aniline, etc., are usually boiled up with the soap. To facilitate this operation, as a well dried soap does not readily melt, it is usually cut up into fine shavings, and after boiling is well worked under rollers until it presents a uniform appearance. If the soap is intended to be highly scented, or very extensive perfumes are to be employed, the cold process is adopted, as much of the strength of the scent is lost by boiling. In this case the soap is shredded as before, and the perfume and coloring matters well amalgamated with it by being worked in a mortar with a pestle. It is then divided into lumps, and roughly molded with the hand into something of the shape it is finally to assume. After being left on a rack to dry for about a week, it is pressed into a mold, which imparts to the cake the form and device which may be required, and when taken out, the edges are trimmed and the surface polished with the hand.—*Scientific American*.

The Microscope for Testing Steel.

According to the experiments made by Mr. John Schott, the eminent chemist, the different qualities of iron and steel can readily be distinguished by means of the microscope. Thus, the crystals of iron are double pyramids, in which the proportion of axes to the bases varies with the quality of the iron. The smallness of the crystals and the height of the pyramids composing each element are in proportion to the quality and density of the metal, which are seen also in the fineness of the surface. As the proportion of carbon diminishes in the steel, the pyramids have so much the less height. In pig iron and the lower qualities of hard steel, the crystals approach more closely the cubic form. Forged iron has its pyramids flattened and reduced to superposed parallel leaves whose structure constitutes what is called the "nerve" of the steel. The best quality of steel has all its crystals disposed to parallel lines, each crystal filling the interstices between the angles of those adjoining. These crystals have their axes in the direction of the percussion which they undergo in the working. Practically good steel examined under the microscope has the appearance of large groups of beautiful crystals, similar to points of needles, all parallel and disposed in the same direction.

NEW ATMOSPHERIC BRAKE.—The Pittsburgh and Connellsville Railroad Company have been trying a new air brake, called the Smith patent, and claimed to be a better one than any now in use. This apparatus it is asserted, can stop in a few seconds a train of cars at full speed. At a recent trial on the Missouri Pacific Railroad, a train 300 feet long, traveling at a speed of 34 miles an hour, was stopped in 20 seconds, and at a distance of 1,000 feet from the point where the brake was applied. The train traveling at the same rate was subsequently stopped by brakemen with a hand brake; but 45 seconds were required and the cars continued in motion for 1,750 feet.

TO PREVENT BOILER EXPLOSIONS.—The record of English patents shows one designed to prevent explosions of steam boilers, which may be worth notice. This device consists in providing a hole in the upper part of the boiler, and covering the same with a material (India-rubber for example) of sufficient strength to withstand ordinary pressures, but which will give way and allow of the escape of steam under excessive pressure. The india-rubber is clamped to the boiler by a flanged tube formed for the purpose.

A NEW BRASS SOLDER.—A new brass has been devised, having its expansion and contraction by changes of temperature the same as those of iron or steel, or so nearly so, that it may be used to solder those metals to brass. Its composition is: tin, 3 parts; copper, 39½ parts; zinc, 7½ parts.

Hardening Rails.

Want of room at Demitoff's rail mill, at Salda Nischne, caused some years ago, a lot of red-hot rails to be removed to outside of the building where the ground was covered with snow, when it was found that the iron had been wonderfully hardened by the sudden cooling process it had undergone. A government commission, by careful examination, satisfied itself on this point, and since that time all the Russian mills have adopted the plan of suddenly cooling the rails by means of water. The rails are plunged into cold water immediately on leaving the saws, except at the works of Von Patilow, near St. Petersburg, where rails with heads of mild puddled steel are allowed to cool sufficiently to lose their luminosity before receiving the cold bath. Rails so treated are found to be perfectly reliable in the severe winters of Russia, so that there can be no question of their service in other and less rigorous climates. "The degree of fracture in good hardened rails depends," says a contemporary, "obviously on the degree of hardness, and this depends not only on the amount of carbon present in steely irons, but on the temperature at which the hardening is effected; and there can scarcely be any tenable ground why rails should not be hardened while any other articles are, in which fracture is equally to be feared. The hardening effected by sudden cooling is indisputably less dangerous than that imparted by phosphorus; and, in case of iron free from impurities, when we compare rails hardened on the one hand by the addition of carbon, (approaching steel in composition) and on the other by sudden cooling, the advantage of safety would undoubtedly be in favor of the latter—to say nothing of the expense of manufacture."

A NEW PREPARATION OF INDIA RUBBER.—An improved preparation of rubber has lately been invented at Providence, R. I., which seems to supply an important want. This preparation is for carriage washers, gaskets, belting, and other purposes, where rubber comes in contact with oil, so prepared that the oil will not affect the prepared rubber. The invention consists in combining clay with vulcanized rubber. The clay which is preferably used, contains by analysis about thirty-nine per cent. of alumina, forty-six per cent. of silica, thirteen per cent. of water, and about two per cent., or a mere trace of iron, magnesia, and lime. Any appreciable quantity of these last mentioned substances would defeat the object in view, since they would lump and form a gritty surface, and their particles would not contract with sufficient closeness to exclude oil. In preparing the rubber the clay is mixed with the caoutchouc and sulphur, which mixture is then prepared and vulcanized in the ordinary manner, according to the particular use to which it is to be applied. Plumbago may be added to the mixture, or not, according to the use which the rubber is to be applied. For carriage washers the compound is vulcanized upon an arbor, and washers of the desired thickness are afterward cut off.

EXTRAORDINARY RAILROAD IRON.—The Montreal Gazette states that the Canada Grand Trunk Railway has received from England samples of steel for rails and axles which will challenge comparison with any material ever made for these purposes. "A rail was twisted cold 13 times before fracturing, in the shape of a spiral spring; and the fracture indicated that the metal still retained its hardness, toughness, and malleability. An axle was bent cold in a testing machine, with a pressure of 2 tons at 3 ft. 6 in. bearings, into a complete knot without any fracture whatever." Other remarkable samples are reported.

A SINGLE-RAIL TRAMWAY has lately been put into operation in India. The cars have four ordinary wheels, placed as usual, and two others, double flanged, placed between the fore and hind wheels which take the weight of the car and load, and run upon a single-rail in the center of the road track. The ordinary wheels serve to merely balance the car. The road costs but about one-half as much as the ordinary railing, while the power required for draft is vastly less than on common roads.

CASTING UNDER PRESSURE.—The casting of car wheels under pressure, has for some time been in progress at the Fairhaven, (Mass.) Iron Works. It is claimed that decided advantages are obtained by this mode of casting.

SCIENTIFIC PROGRESS.

PSYCHIC FORCE.—It is proposed by Mr. Cox, one of the witnesses of the experiments with the "medium" Home, conducted at the house of Mr. Crookes, in London, that a psychological society shall be established for the investigation of the newly acknowledged force—in other words that a new branch of technology should be instituted out of this class of phenomena.

So far as yet developed this force does not appear to be accorded to every one—and is not uniform in its manifestations even to those who possess it in the highest degree yet noticed—a fact which must seriously interfere with any extended utilization of the miraculous power of setting at naught the laws of Nature. Hence we can hardly look to the possible construction of a psychic engine as a substitute for steam.

Still, if no other benefit should be derived from the investigation than the overthrow of the absurd theory that the peculiar developments noticed have their origin in the antics of departed spirits, the rational world will be placed under lasting obligations for that alone.

FURNACE TEMPERATURES.—The difficulty of determining high temperatures, as in furnaces, is well known; while the importance of being able to do so more closely than is now possible is universally acknowledged. Mr. C. W. Siemens, a gentleman well known in connection with improvements in furnaces, proposes to make use, in this connection, of the well known fact of the increase of electrical resistance in conductors with the rise of temperature. He has devised a very simple instrument for measuring the resistances, without the aid of the magnetic needle or resistance scales; and has tested his methods with very satisfactory results. He recently presented a paper on the subject before the British Royal Society.

A NEW ALKALOID FROM CINCHONA BARK. David Howard communicates to the *Journal of the Chemical Society*, London, the fact that he has discovered a new alkaloid, hitherto undescribed, in Cinchona bark. It was detected in the mother-liquor, while re-crystallizing quinine sulphate. This alkaloid appears as a yellowish oil, decomposing only when heated, and not losing its water in vacuo. It is soluble in either alcohol or ether. It is more strongly alkaline than quinine, and at the same time is less bitter than any other cinchona alkaloid. Experiments are being made to determine from what portion of the bark it proceeds.

TESTING THE QUALITY OF METALS AND ALLOYS.—P. Bischoff of Bonn has proposed a new method of testing the quality of ductile metals and alloys, which, with the description of the apparatus required, is described in Dingler's *Polytechnic Journal*. If different kinds of metals or alloys have been rolled in exactly the same manner, the difference of ductility between them may be readily determined by the difference in the number of times the metal can be bent to and fro; under precisely the same circumstances, chemical analysis can only ascertain the presence or absence of certain impurities, without showing the injurious effect such impurities may have upon the metal. M. Bischoff has devised machinery which acts uniformly in both rolling and bending, and claims that the relative number of bends, when made by such machinery, determines not only the tenacity and strength of the metal, but its ductility and softness as well.

ORIGIN OF PETROLEUM.—A prominent German scientific journal contains a labored review of the various theories of the formation of petroleum, read before the Swiss Association of Natural History, in which many objections are raised against the theory of the production of that fluid from the remains of either animals or plants. A mineral origin is suggested.

Oxygen from the Atmosphere.

The economical preparation of oxygen gas on a large scale, for use in the arts, has long attracted the attention of chemists, and several ingenious suggestions have been made looking to a solution of the difficulty, among the most recent of which is the one by Mallet, in Paris, who has devised a plan for obtaining this gas from the atmosphere by taking advantage of the greater solubility of nitrogen in water than oxygen. If the air be passed through water, more of the nitrogen is absorbed than oxygen; and it is only necessary to repeat this operation a number of times to arrive at an atmosphere from which nearly all of the nitrogen has been eliminated. It is difficult, without the aid of wood cuts, to convey an idea of the apparatus which has been constructed for accomplishing this result, but it is chiefly composed of a series of cylinders, to each of which is attached a force pump for driving in the air and passing it from one vessel to another. The moment the pressure is removed from the water, the gas escapes just as it does from a soda fountain.

It is found by actual experiment that after forcing the air through eight cylinders not more than three per cent. of nitrogen remains, an amount which may be disregarded for all practical purposes. The chief item of cost is in the working of pumps, which cannot be much, as the pressure would not have to be very great.

From the simplicity of the method we should not be surprised if Mallet's process should soon take precedence over all others. The need of a cheap method of producing oxygen has long been felt, and it appears as though the process for obtaining it here alluded to, might meet a large number of cases.

There are many metallurgical operations in which powerful blasts of air are employed to increase the force of combustion, where experiments ought to be instituted to ascertain if that quantity of oxygen could not be increased by the intervention of a drum or some kind of receiver for water. If this could be done without interfering with the requisite supply of air, it is probable that greater heat, with a large saving of fuel would be the result.

A SPONTANEOUS EXPLOSIVE.—Some experiments recently conducted at the Philadelphia High School developed the fact that when a strong solution of phosphorus in bisulphide of carbon is poured upon finely powdered chlorate of potassa, resting on paper, and the mixture is exposed to air, upon the evaporation of the bisulphide of carbon, the phosphorus being left in a very finely divided state, intimately mixed with the chlorate of potassa, the mixture presently explodes spontaneously, with a loud detonation. The explosion in this instance is analogous to the case of phosphorus and chlorate of potassa when struck or rubbed together, the mixture of the two substances in the present case being, however, much more perfect than can be obtained by any mechanical means.

GREEN OF LEAVES.—J. J. Muller, who has been examining into the nature of the coloring matter of leaves, states that on directing a spectroscope to the under side of a leaf, on the upper side of which the sun was shining, he observed a spectrum entirely distinct from that which characterizes chlorophyll. The inference drawn is that the green of leaves is not leaf-green or chlorophyll, as heretofore supposed. No opinion is given of what it may be.

OXIDATION OF AMMONIA.—To exhibit the rapid oxidation of ammonia, Hoffman puts a tuft of platinized asbestos in the middle of a combustion tube, places red litmus paper before and blue paper behind it, and conducts a current of air impregnated with ammonia over the heated point. The formation of nitrates and nitrites is immediately shown by the reddening of the blue litmus paper, and in the cool part of the tube, white fumes of salts are deposited. If the operation be continued for some time it is easy to fill a flask with the ammoniacal nitrates.

BISMUTH.—This metal comes principally from Saxony, and sells at a very high price. It is, however, reported that bismuth has been discovered at Bahannah, in South Australia, where extensive smelting works have been erected for extracting the metal from the ore.

FARM HINTS.

Potash and Potatoes.

We all know who have read the results of analysis, that the ashes of a burned potato are about half potash, consequently, when all the soluble potash in the soil is exhausted by cropping, it must be supplemented by vegetable manure rich in potash or by the application of the muriate or nitrate of potash from the dry-salters, as it is impossible for the roots of the potato plant to extract soluble potash from the insoluble granite silicates of the stone in the soil, sufficient for the growth of the tubers.

In England where the farmers are tenants, with a heavy rent to pay, they cannot afford to be ignorant of the right application of both special and stall manures as required by their different crops. Hence, the farmer who has a little vegetable manure will apply that little to his potato crop, for the potash it contains and perhaps Peruvian guano, to supply phosphate of lime and ammonia for a full crop. An experienced farmer, no longer ago than last month, writes to the *Mark Lane Express* thus:—"Though abundance of experiments upon phosphatic and nitrogenous manures are extant in our agricultural books, those upon potash are few, and not readily found. Having tried it very thoroughly on potatoes, I send you some particular results, which will, I hope, prove useful to some of your readers who are about to grow potatoes."

Here follow the details of thirteen experiments in which the muriate of potash is generally used with other manures, occupying too much space for the limits of this article; suffice it to say that 4 cwt. of muriate of potash, with 4 cwt. superphosphate, applied to an acre of land, produced 7 tons 6 cwt. and 89 pounds of potatoes. On another acre 15 tons of farm-yard manure produced but 111 pounds more, while another acre, manured with 4 cwt. salt, produced the first year 8 tons 16 cwt., and the next year but 4 tons 7 cwt., with the same manure and no potash. The writer says: "I have tried the effect of potash manure upon grains and grasses, and cannot advise their application to the grains as a profitable investment. Upon a clover crop the effect of potash is very marked, and when applied in moderate quantity, say under 20s. cost per acre, will generally prove profitable, if quality is wanted; but where a great weight of rye grass is wanted, the addition of potash to the manure is not profitable, though the quality is improved. It also has shown profitable results when applied to the turnips."

He also says: "As the practical results of very numerous experiments, I recommend for potatoes, per acre, superphosphate of lime, 6½ cwt.; muriate of potash, 3 cwt.; sulphate of ammonia, 2½ cwt. This will be found for potatoes much better and safer, as regards disease, than farmyard manure; and if the latter is valued at 8s. per ton on the field, the above mixture will be found also cheaper, even taking into consideration the after effect of farmyard manure."—*Boston Weekly Spectator*.

THRIFT AND ECONOMY. *Mr. Editor:*—I have often seen and heard disparaging reports about Horace Greeley's ways, style of penmanship, dress, farm notions, etc.; but after carefully considering much that we have thus read, I have made up my mind that he is about as sensible a man as lives in New York City. I have just been reading his advice to the young men of that city, and think it would be very well for men of the Golden State, young and old, to think a little about it. He says that "during the forty years that I have lived in the City of New York, the working men have spent for liquors and tobacco money enough to have purchased half the property in this city, which, turned into farms, would afford employment and comfort to more than the most philanthropic would suppose."

I think the young men of this and other States would not be any the worse at the end of twenty-five years, if they would read and try to profit by the advice of such men as Horace Greeley. C. L. SEE.

HEDGES—At a recent meeting of the Kansas State Horticultural Society, a member said he could raise a hedge for 25 cents per rod. He has set out 200 miles this season, planting close and cutting back each year. In his present method he cultivates well, trims narrow, bends the plants down horizontally with the row, filling up the vacant places, and thus secures a good fence.

Neatness on the Farm.

It does not cost as much to be neat and orderly as it does to be slovenly, and it is much better to be neat, and is more agreeable and pleasant. In passing the farm it is easy enough to tell whether the owner is a neat farmer or not. If the doorway is strewn with old boxes, barrels, and farm implements, broken and otherwise, the gate broken or minus, broken apple-trees lying in the orchard, or thrown in the road, which is worse, the character of the owner is known at once.

Are the fences straight from one point to another, or do they wind serpent-like, using up twice or three times as much land as is necessary, and nearly hid with briars and young trees? Are the roads filled with fragments of stumps, stones, logs, brush and every other unmentionable rubbish that could be much better and profitably disposed of? These are marks of idleness, carelessness, and often drunkenness.

Again, a neat farmer has his rows of corn, potatoes, etc., straight across a field; they are more easily and cheaply worked, and there are many more hills to an acre, and how much better they look.

Many farmers think they cannot find time to keep things neat and tidy; that the general farm work is all they can manage. This might be so if these habits of slovenliness did not hinder and make three times more work than it would to keep them straight. If on some day after a rain, when the land is too wet to work, any one will go to straightening up things a little, he will be surprised to see how many of these odd jobs can be done in a few hours, and what a difference can be made in the general appearance of things, and very many little things can be fixed in ten minutes which if neglected may cost a dollar to repair.

A better way is to set apart half a day in every week, say Saturday afternoon, for this work, and in a few weeks it would be found to be the most profitable half day's work in the week. A minute of many little things can be kept during the week, and on Saturday afternoon the list cleared up.

A little care about building fences straight will save itself in fencing material and will add a few more rows of corn or rods of grain to the crop on both sides of the fence. I have made it a rule never to put anything in the road. Brush stumps I burn. Stones I pile up out of the way or where they will be needed. I am sorry and almost ashamed to say that many farmers make the road a general receptacle for rubbish of every kind. Instead of having clean and green roads, they are nearly blocked. I was surprised a few weeks since while traveling a circuit of a few miles to see the vast amount and variety of these obstructions. Runaways often occur by teams getting frightened at objects in the road that have no business there, and no true gentleman ever puts them there. Every one seems to think the little he puts in the road will not be noticed, but all thinking so, fill the road.

Let every farmer (and every other man) keep his rubbish out of the road, and clean it up and the country will look better and be better.—*Western Farmer*.

ADVANTAGES OF THE ROLLER.—The *Mirror and Farmer* thinks it strange that so few cultivators use this labor-saving instrument. The roller has long been favorably thought of in Great Britain, and is there considered very necessary for an improved state of husbandry. It is useful in breaking the lumps of baked earth in a clayey soil, and for passing over newly-sown land. On dry land it presses down the soil and makes it less dry. A wooden roller should be about six feet long and about twenty inches in diameter, round, and of stone, and when once made will last an age. The spike-roller is much recommended for mellowing clayey soils. It also acts, beneficially in passing over old meadows that are grass-bound, for the purpose of making the grass more thrifty.

THREW HIMSELF INTO A THRESHING MILL. While a threshing mill was recently in operation, near Philadelphia, a stranger came along and requested permission to feed for a few minutes. His request was granted, and it was soon perceived that he was an expert at a threshing machine; when all at once, and while the machine was running at lightning speed, he allowed the teeth to become clear, deliberately folded his arms and threw himself headlong into the threshing. Of course he was instantly torn in pieces. No clue to his identity could be discovered.

Watering Gardens in Hot Weather.

Injudicious watering is an injury to most garden plants; but properly performed, (for there is a right and a wrong way of doing it) it is a great aid to the plants, and few are the gardens, flower or vegetable, that are not watered artificially during the period of summer drouth. A slight watering in the middle of the day is an injury rather than a benefit. The heated earth at once absorbs the water thus applied, it bakes and forms a hard crust about the plant, the dews are not absorbed, and the plant is in reality worse off than if no water had been put on. It is more important to keep the soil light and loose about newly set plants, flowers, etc., than it is to drench them with water. Where this is done the moisture comes up from below, the dew is absorbed, and the plant thrives, which it cannot do so long as the surface is crusted over. Always water at night; and before watering have the ground loosened up with the garden rake. Then water liberally—the application of a little water is often no better than none. Indeed we had rather keep the hoe going in a flower or vegetable garden, in hot, dry weather, than the watering pot. The plants will stand the drouth better by the former than the latter mode. Too much water is as injurious to vegetable life as too little; to drown out your plants is as bad as to have them scorched—therefore use judgment in watering, as well as in other matters connected with the care of your gardens.—*Ec.*

Economy in the Use of Salt.

Green wood contains about 40 per cent. of its weight of moisture, which forms a watery vapor when burning, and even dry wood has over 40 per cent. of the elements of water, viz.: oxygen and hydrogen, that form vapor when such wood is burnt. Coal consists mainly of the carbon in wood which in burning forms a very drying heat. Most of our readers are familiar with the usual process of barbecuing large pieces of meat over coals. If such meat were too high above the coal fire to roast, it would soon dry, and a very little salt and smoking will keep it indefinitely. Like cured bacon it should be packed in tight casks and kept in an airy room.

If anybody after killing his hogs is short of salt, he may extract the water from the meat by drying it over burning coals as soon as possible, first rubbing in a little salt. Trees planted around a meat-house are injurious by causing dampness. Meat should be dried by a coal fire after it is smoked. Some may dislike to have meat done in this way, but it is a well known fact that the driest hams generally keep the best. Sweet, dry bacon is far better than that which is moist and tainted, and our aim is simply to show how meat may be cured and kept long with a trifle of salt, when war has rendered the latter scarce and expensive.

FARM EXPERIMENTS.—Some experiments, says the *New England Homestead*, are now being made near Springfield, Mass., in the use of Indian meal, cotton seed meal, etc., for fertilizers. Mr. L. G. Curtis tried about one-half acre with nothing but the Wilson Tobacco Grower, and by the side of it, on the same kind of land one-half acre of Indian meal. Wilson's Grower has had the effect to make the weed grow, but it is admitted by every one that sees it that the tobacco on the mealled land is the healthiest looking, and that the crop promises the best at present. He has another field that he has had in tobacco for several years and has tried meal, with the same amount of barn yard manure this year, side by side, and the mealled crop looks so well that it would puzzle a novice to tell the difference. Fitch Brothers report in favor of meal in their trial. A moderate definite result may be expected by and bye. Much interest is being felt by the farmers of that section in the results of these experiments.

FRUIT RECEIPTS.—Messrs. Lusk & Co., of the Pacific Fruit Market, report the receipts in this city for the week, ending Saturday last, as follows:

11,000 boxes of apples; 3,000 boxes and 900 baskets of peaches; 6,000 boxes of plums; 4,200 boxes of foreign, and 2,400 boxes, domestic grapes; 60 chests of blackberries, 9 chests of raspberries, 24 chests of strawberries, 150 boxes of figs, 150 of quinces, 1,800 boxes of Bartlett pears and 6,000 boxes of common pears.

WHEELS go best when thoroughly tired.

Water Pipes.

BY OUR NEW YORK EDITOR.

What Shall we use for Service Pipes for Household Purposes.

This most important question has been answered in a dozen different ways within as many years but people even yet do not seem satisfied. Let us look at some of the materials which have been brought forward to answer this question. Galvanized pipe, bad from the first moment. The lining of zinc too thin to be of any use in protecting the iron. Zinc is poisonous and so are its compounds. It is readily taken up by the water and in fact it protects the iron at the expense of its own corrosion. Iron, is fairly safe, but not good. Iron will rust, and iron rust water is better for a medicine than for a drink or for household uses, as it is ruinous to the teeth. Lead; almost all waters corrode lead and carry it along with them. One water in ten may not, but the reverse is the rule and it won't do to trust that the water you use is an exception. Lead pipe makers tell you that it is safe. They have an ax to grind and lie to help the grinding. They know that the best of drinking waters in almost every case will corrode lead and the water will be poisoned.

The worst of lead poisoning is that you may take a little now and not feel it, a little next week and no effect, and so on, but when the whole amount is sufficient to produce the poisoning, then look out. Not a particle of lead that once gets into the system ever gets out. It is an accumulative poison. Rubber can't be trusted mechanically. Well you all know what I am coming at. Tin, yes that is the metal. Pipes were made with a wash of tin inside. It was too thin, it broke or wore away, exposed the lead and then you were as bad off as though the pipe was of lead in the first place. Some said galvanic action! That's a mistake, the metals are so much alike in some respects that galvanic action don't take place between them. So you are no worse off even after your tin is gone than if you had a lead pipe. But pipes are lined with tin in these days in a way that makes a tin pipe inside a lead one. A New York man invented the process several years ago. The thinnest coating of tin used, is as thick as card board. The lead outside is as stout as in any lead pipe. Here we have it then. The tin is as thick as safety requires, and the lead outside is as strong as you want it, like any lead pipe. "How shall you know this pipe if you see it?" The inside is almost as bright as silver and on the outside are four little ridges extending the whole length of the pipe equally distant from each other.

If you inquire about this at your plumbers there is no knowing what they will tell you. They have all manner of stories about "can't solder joints," "unequal expansion" of the two metals, worse than lead, etc., etc. We have heard all that before, and from people who knew better. Just tell them, however, that another New Yorker invented a joint which is as strong as any part of the pipe and don't take a plumber to make it either. It don't cost much. It does away with all the trouble that they have ever had with such work; its quicker too. Now I have no ax to grind, and I can't tell you anything about prices, though its my impression that it costs about the same as lead pipe; a little more I think. I never bought an ounce in my life; I don't know the address of the firm that makes it; you will find it in almost any of the Eastern papers. I think I may be pardoned if I say that a letter addressed to Mr. — Shaw, 213 Centre street, New York City,—I don't know his initials—would probably bring you all the further information which you wish. I speak freely, because I feel that it is high time for people to understand that lead pipes will poison. It is only a question of time. Tin pipes and tin lined pipes are safe and they are not expensive when we look at the danger arising from the pipes in use. Now reader if you poison yourself with lead water pipes my hands are clear of you.

Be deaf to the quarrelsome, blind to the scorner, and dumb to those who are mischievously inquisitive.

THE DAIRY.

HOW CHEESE IS MADE.

A large portion of the consumers of this universal article of diet are quite unacquainted with the *modus operandi* of its preparation; and no doubt many, even of the intelligent readers of the *RURAL*, are far from being thoroughly posted in this particular. Hence we presume an outline of the now general and most approved practice will be read with interest by many. The following concise description of the process, we find in the *Maryland Farmer*, and would premise it by saying that it does not claim to enter into the minutiae of the business, as such a description would fill a good-sized book:

The common practice is, to make the cheese of two milkings; uniting the evening's and next morning's messes. That of the evening, as soon as drawn, is strained into the cheese vat, and reduced in temperature as rapidly as possible, by passing cold water around the outside of the tin vat holding the milk; and by frequent agitation with a dipper, which not only assists in cooling it, but also serves the purpose of removing the animal odor; the occasional use of which also prevents the rising of the cream to the surface.

But as it is inconvenient to continue this stirring during the whole night, more or less cream will have formed on the surface; if it has become so tenacious as not to be again readily incorporated with the milk by agitation, it is skimmed off and gradually passed through the strainer with the warm morning's milk.

The two messes of milk being now in the vat, it is occasionally agitated to keep in the cream, and heat is applied till it indicates a temperature of 85° F., at which point the heating is stopped, and an amount of rennet sufficient to properly coagulate the milk in forty to forty-five minutes, together with the coloring—if any is used—is thoroughly stirred in, and then left at rest—covered with a cloth to retain the heat—till the coagulation is complete, which may be known by the curd being in condition to be cut with a knife, and by its breaking over, and having little or no milky appearance on the finger. The curd is then cut up, by knives made for the purpose, into cubes of about half an inch, which liberates the whey from the curds; and the heat is then again started, and very slowly kept up until the thermometer indicates a temperature in the curds and whey of 98° to 100° F.—two hours should be consumed in reaching this temperature, at which point it should be retained an hour longer. During the heating process the curd should be gently moved with the hands—very gently in the early stages—and so separated that the whey in which it is being cooked may reach all the particles, that all may be cooked alike. If this portion of the process has been properly attended to, the particles of curd are about the size of grains of corn.

The whey is now drained from the curd, and the curd spread evenly over the bottom of the vat, for cooling and exposure to the air; and so left for fifteen or twenty minutes, when it is cut into squares—say of ten inches—and turned over to give a like exposure to the underside. It is then cut into smaller pieces and passed through the curd mill, which prepares it for salting, salt being mixed with the curd at the rate of about three pounds of salt to one hundred pounds of curd.

The press hoop is now placed upon the press board; and a heavy cotton cloth—sufficiently large to envelope the whole cheese—is spread into it and filled with curd, which is submitted to pressure under a 1½ inch screw, from one to two hours; the cloth is then removed from the cheese, which is then bandaged with light cotton cloth, made for the purpose. The bandage being about three inches wider than the height of the cheese, so as to leave one and a half inches to turn over on the top and bottom of the cheese, to protect the corners in turning. The ends of the bandage are first sewed together, so that it shall closely encircle the cheese; it is then drawn on, and the edges—wet with whey—are smoothed down over the corners; the hoop is again placed over it, and pressure applied. It remains in press until the hoops are wanted for next day's cheese, an occasional turn being given to the screw.

The dressing being complete, the cheese is removed from the hoop, and its entire surface greased—usually with grease that is skimmed from the surface of the whey,

which is covered over and left standing for the purpose—the skimming having been boiled to evaporate the remaining whey. This is performed daily, with a decreasing amount of grease, accompanied with turning of the cheese and rubbing with the palm of the hand. After the first week but little grease need be used, but the turning should be continued, and the surface kept smooth and free from mould by the rubbing.

The curing room should be free from dampness, flies and vermin; and though it should be ventilated, currents of air and the direct rays of the sun should not be allowed to strike the surfaces of the cheese, as they will endanger cracking. Probably an even temperature of 75 deg. in the curing room is best, for cheese that is to be ready for market in twenty-five to thirty days; but if possible to prevent, it should never exceed 85 deg. And now if your milk has been in good condition, the curd properly made, and the curing duly performed, your cheese is ready for boxing and for market.

Color is almost universally used for the purpose of imparting to the cheese a rich creamy appearance, though it adds nothing to its character otherwise. Annotta is the only article used for this purpose, and if obtained pure, is in no way detrimental. Much complaint, however, has recently been made of adulteration of this article; but it can be obtained pure of responsible and honorable dealers.

A very common fault in the use of coloring in cheese, is that too much is applied; giving the cheese too high a color, at once betraying its artificial character, and inducing doubt as to its quality—thus defeating the object sought to be obtained. The best annotta now to be obtained is the "extract," which is ready for use. I shall therefore say nothing of the method of preparing it for use from the basket.

Rennet—In the making of cheese this article has no substitute. It is a preparation made by soaking in soft water or whey, of the dried stomach of the calf; that stomach, or portion of it only, in which the milk is converted into curds, before entering into the intestines for digestion in the natural process in the calf. In killing the calf, that portion of the stomach only should be saved which contains curd, more or less of which will be found in it. If, however, no curd is found, save that part only which has a smooth inner surface. Turn the rennet or stomach inside out, shake off its contents, but do not wash it; fill it with salt, and spread on a plate or hang in a dry place to dry. It should not be allowed to make brine. The rennet is doubtless at its greatest strength when the calf is about a week old, or soon after the milk of the cow is in condition to be used for the dairy.

In preparing for use, fresh whey that has been boiled and skimmed is generally preferred—though some use boiled water—at the rate of ten rennets per gallon of whey or water, which should be tepid only, and contain sufficient salt to prevent putrefaction. When soaked so as to be pliable, they should be thoroughly rubbed in the liquor, which should be kept in a stone jar in a cool place. After two or three days of soaking and rubbing, the rennets may be removed, and the liquor is ready for use. A like amount of water or whey may again be added to the rennets a second and third time, and the liquid used with advantage in preparing another batch.

Of the amount of rennet to be used in "setting" a given quantity of milk, no ratio other than that it should be sufficient in quantity to perform its office in about forty minutes can be given, as each batch will be found to materially vary in strength. The proper amount must therefore be determined by trial after each new lot of rennets used.

The following articles are needed in a cheese dairy or factory, on a basis of 40 cows:—

One cheese vat, with heater attached; capacity, 135 gallons.

Two cheese press hoops, and followers, 14 1-2 inches in diameter.

Two press screws—the press frame can be made at home, and cost of transportation saved.

Two curd knives—one for cutting the curd perpendicularly, the other horizontally.

Two stone rennet jars, about ten gallons each.

One curd mill.

One thermometer.

One each: Curd scoop, pail and dipper.

The curing table, which may be made by any ordinary carpenter; the tops should be smooth; should not be of spruce, pine or any wood that can impart taste, or smell to the cheese.

FLORICULTURE.

The Pleasures of Gardening.

The pleasures arising from the culture of flowers are harmless and pure; a streak, a tint, a shade, becomes a triumph, which, though often obtained by chance, is secured alone by morning care, by evening caution, and the vigilance of days. It is an employment which in its various grades excludes neither the opulent nor the indigent; teems with boundless variety, and affords an unceasing excitement to emulation, without contention or ill will. There is no other pursuit alike calculated for peer or peasant, in which the distinctions are so trivial; for the cottager may possess and enjoy the same beautiful rose, or fragrant mignonette in his little plat or his window, that occupies a place in the garden of the richest. The clear light of heaven, the fresh air, the verdure of the fields, the delicacy of form and richness of color with which bounteous nature supplies us on every side, in the almost inexhaustible variety of our horticultural and floral treasures, are all sources of the most unalloyed pleasure; and it is a wise dispensation of the Giver of all Good, that this gratification of the senses of sight and smell, whilst beholding the elegant shape of plants and inhaling the exquisite perfume of their flowers is an enjoyment within the reach of all who choose to seek it. There are few surer tests of a happy home within than the flower-decorated window and neatly-kept garden; and there is no occupation for the leisure hour more calculated to keep it so, or to sooth the mind. It yields pleasure without surfeit; the more we advance the more eager we become. And how unlike this is to most of our worldly engagements.—*Gardeners' Magazine.*

The Sleep of Flowers.

Almost all flowers sleep during the night. The marigold goes to bed with the sun, and with him rises weeping. Many plants are so sensitive that their leaves close during the passing of a cloud. The dandelion opens at five or six in the morning and closes at nine in the evening. The goat's beard opens at three in the morning and shuts at five in the afternoon. The common daisy shuts up its blossoms in the evening and opens its "daisy-eye" to the morning sun. The crocuses, tulips, and many others, close their bosoms at different hours toward evening. The ivy-leaved lettuce opens at eight in the morning, and closes forever at four in the afternoon. The night-blooming cerous turns night into day. It begins to expand its magnificent sweet-scented blossoms in the twilight, is in full bloom at midnight, and closes never to open with the dawn of the day. In a clover-field not a leaf opens until after sunrise.

Charm of Flowers.

Flowers seem intended for the solace of ordinary humanity. Children love them; quiet, tender, contented, ordinary people love them as they grow; luxurious and disorderly people rejoice in them gathered. They are the cottager's treasure; and in the crowded town, mark, as with a little broken fragment of rainbow, the windows of the workers, in whose hearts rest the covenant of peace. To the child and the girl, to the peasant and the manufacturing operative, to the grisette and the nun, the lover and the monk, they are precious always.—*Ruskin.*

Flowers are for All.

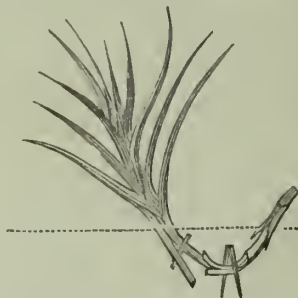
It is a mistake to suppose that flowers are the peculiar property of the affluent. God has made them as common as air or water, and the poor can, and do enjoy them equally with the rich. We have known a rich lady discard all flowers, and would have none of them on her premises, because they required too much care, and she did not see much beauty in them; and we have seen a shanty with morning glories creeping over the door and windows, with here a patch of verbenas, and there a bed of pansies, and we have no doubt the mistress of the shanty was more of a woman, and enjoyed life more, than the lady of the mansion.

DAHLIAS are like beautiful women without intellectuality; they strike you with astonishment by their exterior splendor, but are miserably destitute of those properties which distinguish and render agreeable less imposing flowers. Had nature given the fragrance of the roses or stock to the dahlia, it would have been the most magnificent gem of the garden; but wanting perfume, it is like a fine woman without mind.

Don't Crowd the Flowers.

There is one principle in the cultivation of flowers that should always be borne in mind—that is to keep the different varieties, properly grouped, and all set at snitable distances apart. Two sorts cultivated in this way will give more satisfaction to a real lover of flowers than twenty varieties crowded into one bed—mixed up into a sort of floral jam. A vast crowd of people, in one mass, does not produce a pleasurable sensation; but when we see a great number of different groups, they form as it were a beautiful picture, which we never tire of looking upon. Just so it is with flowers, they must not be too largely and indiscriminately massed; scatter them about in little beds, with evergreens, or grass plats between, and half the number of varieties will answer your purpose.

LAYERING PINKS.—Pinks may be most easily propagated by "layering," as shown in the accompanying illustration. It is



not absolutely necessary to slit the stalk, as shown, when it is laid below the ground; but by so doing the time occupied in procuring a root is much shortened and the work made sure.

FEED YOUR FLOWERS.—All kind of flowers ought to be stimulated greatly once or twice a week. Rain-water, so refreshing to summer flowers, always contains ammonia, which also abounds in all liquid manures. If you take an ounce of pulverized carbonate of ammonia, dissolved in one gallon of water, it will make spring water even more stimulating to your plants than rain-water. If you water your plants once in two weeks in guano water (one or two table-spoonfuls to a pail of water) they will grow more thrifty. Chicken manure dissolved in water is excellent. Always keep the soil about your flowers loose. Stirring the soil is just as essential as watering, even in such a dry climate as California. Flowers can never flourish when the earth is baked to a crust over and around the roots.

How to Dry Plants.

The inquiry is often made as to the best method for drying plants for an herbarium. The process is very simple. The specimens to be pressed should be collected when free from dew or other moisture, and spread upon a sheet of blotting or other absorbent paper, on the third page of the paper. The leaves and flowers should be spread very carefully, so as to show the structure and perfect shape of each. When the plant is thus arranged, the paper is folded together so that the second page rests upon the plant, and after a number are arranged, the whole may be placed in a pile and subjected to a slight pressure for a few days. It is not well to place the plants upon single sheets of paper, because they are very liable to disarrangement and injury. After the plants have become perfectly dry, they may be removed from the blotting paper, and placed between sheets of paper, and if desired may, be affixed by touching the under side of the stem and leaves with a drop of mncilage. When practicable the whole plant and root should be preserved.

PINKS.—In propagating pinks, the young shoots of the season's growth should be cut off at the third or fourth joint, and at the same time remove the lower leaves, and shorten those at the top of the shoots. The soil should be made as fine as possible, and then covered with a layer of fine sand watered before the cuttings are set in it. The cuttings should be shaded from the sun and watered regularly until they have taken root, which will be in about five weeks.

AGRICULTURAL NOTES.

CALIFORNIA.

CONTRA COSTA.—CORN BY WINDMILL IRRIGATION.—Antioch *Ledger*, August 9th:—J. B. Butler presented us with a specimen of corn grown by windmill irrigation on the dry plains above Antioch, that is the largest we have ever seen. The stalk was 15 feet in height with ears 15 feet from the bottom. This shows what our soil will produce when plentifully watered, and from comparison of two pieces of corn grown side by side, it is conclusively shown that if irrigated too much, the stalk grows rank and tall, but the ear is not so large as on those stalks standing farther apart and having had less irrigation. There is no reason why our farms should not all raise a sufficient amount of corn, wheat and vegetables for home consumption, when no rain falls. Windmills are cheaply constructed, and one will water ten acres.

MONTEREY.—WHITE AUSTRALIAN WHEAT. In one of the handsomest nooks of this valley, says the *Castroville Argus*, Mr. Houston has 160 acres of land planted with the above variety of wheat. From it he has harvested and sacked 2,400 sks. of 112 pounds each. The land it was raised on is situated a little below Natividad, and close under the Gavilan range. Mr. Houston informs us that the wheat is the best quality he ever saw. On one acre that was specially measured off, the actual yield was 35 sacks of 112 pounds each. This, we believe, is about the largest yield we have heard of.

FRESNO GRAIN.—The *Fresno Expositor* of September 6th, says: We learn from L. L. DeWitt, who has been in charge of Jones' threshing machine during the present season, that he has been out with a ten-horse-power threshing machine some fourteen days, during which time he threshed 10,000 bushels of grain. The largest day's work done in that time was eleven hundred bushels, which is considered pretty good threshing. He reports the grain yield in Crane, Flint Rock and Fresno valleys as excellent. It is the intention of the farmers of the sections mentioned to cultivate double the amount of land next year that they did this. The majority of the grain yielded about forty bushels to the acre. Some very excellent corn has been raised in the sections mentioned. William Taylor, in Flint Rock Valley, raised a crop which yielded about sixty bushels of shelled corn to the acre. This we call raising corn in earnest. Should the farmers cultivate as much land next year as is now their intention, probably about 100,000 bushels of grain will be raised in the above named valleys.

A NEW FLOUR MILL is in process of erection at Centerville, Fresno county.

FRUIT FROM HEALDSBURG.—Healdsburg is shipping large quantities of fruit to San Francisco. So much for the railroad.

LAKE COUNTY.—Mr. Emery Townsend writes us from Lakeport, as follows:—"This region is crowded at the present time with a transient population, attracted hither by our medicinal springs and delightful climate. It is elevated from 1,200 to 1,500 feet above the sea, and possesses most beautiful scenery. It has been settled some twelve or fifteen years, and has passed through the usual changes of a new country. Every year since its first settlement the soil has produced abundant crops. In 1864, and in 1871, while the crops of other portions of the State failed, in this region they came to about the usual average.

The breadth of grain sown and harvested this year has been at least one-fourth greater than that sown on any previous year, while the yield has also been largely in excess of the usual average. The aggregate of wheat, barley, oats and corn will reach fully 100,000 bushels. Some of the fruits—such as apples and peaches are not quite so good as usual. Apples, pears, peaches, plums, and grapes have been selling recently in this village at five cents a pound; and at some of the mineral springs fruit has been sold at much higher prices. Hay is being pressed in Big Valley, and hauled to Bartlett Springs, where it sells for \$40 per ton. The transient population is consuming large amounts of our surplus products. Farming land has risen one-fourth in value, within the past year, and is still on the rise. Most of the grain is now harvested. Wheat sold in Lakeport on the 30th ult., at \$28 per ton, or \$1.40 per cental, and barley is worth a little more.

PLUMAS COUNTY CROPS.—The *National* hears cheering reports of the yield of the

grain crop in all sections of the county, and the hay crop, although light, is probably as good or better than most of the counties in the State.

THE UPPER SACRAMENTO VALLEY FAIR will commence on the 26th instant at Chico. The *Enterprise*, of that place says that active preparations are being made to secure for it the most perfect success. The stock grounds have been greatly improved and enlarged, the number of stalls has been more than doubled by the erection of new ones, nearly all of which have been already engaged.

SHEEP IN THE VALLEYS ALONG PITT RIVER.—The *Yreka Union* learns from Mr. Roberts, a resident of Big Valley, that there are now 33,000 head of sheep in that valley, and 5,000 in Hot Spring valley. The grass of the valley is fast being eaten out.

CALAVERAS COUNTY.—Says the *Calaveras Chronicle*:—More grain and hay have been grown and cut this year in Calaveras county than any previous year in her history, and never have her fields yielded more per acre. The farmers are acquiring title to their possessions and with Government deeds to their lands they are taking an active interest in their permanent improvement. The farming interests of Calaveras county were never before in so promising a condition. Our farmers begin to understand that they have located in the right region, where their crops are as certain as their market. Farming, this year, has been the salvation of our country. The most significant fact developed by the calamitous dryness of the last two winters, is, that in every instance, in the foothills and mountains, where grain fields have been properly prepared and sown in the fall and winter, they have yielded their owners an abundant harvest the following summer.

OREGON.

Although many fields of grain throughout the State have yielded only moderately this year, says the *Oregonian*, we do not remember to have heard at any former harvest of so many fields where the yield was so unusually large. Instances without number are reported where the yield has been from forty to sixty bushels to the acre.

LINN COUNTY.—A correspondent of the *Willamette Farmer* says the crops are turning out better in this county than had been expected. Mr. Finleyson, of this county, says his wheat will average over 20 bushels to the acre and his oats over 30; and yet he considers this the worst grain he has known in Oregon during an experience there of 20 years.

The *Register* speaks of a field in that county which has this year turned out 40 bushels of oats to the acre; although it has been cultivated continuously with the same crop for 14 years.

SIXTEEN THRESHERS.—A gentleman reports to the *Register*, that on the Saturday previous he counted 16 threshers at work, during his travels on that day.

UNDER-DRAINAGE.—Mr. James Finleyson, above referred to, says his experience in Oregon has satisfied him that his land will yield better for drainage, and that he shall under-drain his entire farm as soon as possible. He has already commenced his main drain.

COSTLY STOCK.—Mr. B. E. Steward, of Yam Hill county, who recently went East to purchase some blooded stock, writes to the *Farmer* that he was present at the recent cattle sales in Illinois, near Springfield. He says he saw one cow sell for \$1,250; and \$1,100 refused for a Baron Booth heifer.

BENTON COUNTY.—The *Gazette* says the wheat crop in Benton county is much larger this year than usual, and the yield so far as we can learn is from 20 to 40 bushels per acre. The oat crop is not so large as usual and the yield per acre is much less than heretofore. The potato crop is also light. The fruit crop is good.

DOUGLAS COUNTY.—A correspondent of the *Farmer* writes as follows:—"Our small grain crops are not turning out as well as was hoped for before harvest, and yet they are good, taking into consideration the late spring sowing. We are waking up out in Umpqua to the farming interest, as the railroad is near at hand.

CLACKAMAS COUNTY.—From the *Farmer* we have this: Enoch Seervin, in Clackamas county cut the brush from four acres of land, without plowing, sowed wheat and harrowed it in a brush harrow. The wheat was threshed and measured last week and averaged 45 bushels to the acre. We do not give this item for the purpose of encouraging any such primitive style of farming, but as tending to show the natural production of our soil.

John S. Weekly, who lives five miles south of Roseburg, recently threshed 500 bushels of wheat from 20 bushels sown. It is the "Velvet Chaff," a large white wheat.

The McMinnville *West Side* acknowledges the receipt, from H. H. Savage of a lot of potatoes, twelve of which weighed 7 lbs.

PROLIFIC PLUMS.—On Monday, Dr. Hanchett brought to this office a branch of a Jefferson plum tree 20 inches long, which contained 128 plums. A number of the plums were one and one-half inches in diameter. The doctor informs us that the tree from which this limb was taken was only ten years old and will produce eight bushels of fruit this year.—*Eugene Journal*.

The Jackson county Agricultural Fair will begin on the 5th of October.

A YAMHILL POULTRY fancier has a hen that raised chickens on the Chicago plan. She never sets, but waits till another hen comes off of the nest with a fine brood of chickens, then whips the mother out, and brings up the little ones until they are able to scratch for their own worm.

HORSE THIEVES have been doing a lively business in Owyhee county. They escaped with their booty.

ENGLISH RICE CORN.—Mr. John M. P. Cook has presented the editor of the *Dalles Mountaineer* with a stalk of English rice corn, raised by Messrs. Gorman & Sweet, on the John Day river which is the first of the kind ever seen in those parts. Last year these gentlemen received 21 seed by letter, from the Atlantic States, and from that seed they raised 50 stalks containing about 1,000 grains. The appearance of the stalk is similar to that of Indian corn, but the grain instead of growing in an ear, is found in the tassel on the top. It will produce about eighty bushels of grain to the acre in soil where the Indian corn will realize only thirty. We should not be surprised if this grain would be extensively grown by our stock raisers for winter feed for their cattle. Samples of this new grain will be on exhibition at our next Annual District Fair, when all will have a chance to examine it.

WASHINGTON.

THE WALLA WALLA VALLEY, and the Eastern part of Washington Territory, generally, says the *W. W. Union*, is attracting more notice from abroad than ever before. We learn this from Eastern papers, from letters both to our men in all parts of the Atlantic as well as the Pacific States and Territories, and from those who have lately arrived in this country. Eastern Washington Territory embraces four counties—Walla Walla and Stephens counties are on the south, and Yakima and Kliekita on the north side of the Columbia river. At present, in point of importance, wealth and population, they rank in the order that we have named them. They are now the pasture, and are fast becoming the granary of the Territory; as yet, the three last mentioned are only stock raising counties. They produce all the grain and vegetables that are necessary for home consumption, but send none of any importance to market, because of their want of facilities for transportation; yet they have within themselves all the elements of future greatness in an agricultural point of view. In these counties there is room for thousands of farmers, where the land is now vacant.

Fruit has not been tried to any considerable extent, but it is thought that in most places it will do well.

In order to show how well cattle pay for raising, it is only necessary to say that cows and calves sell readily at \$50, and yearlings sell at \$20; and in most cases these cattle have never had one pound of feed. Those who have tried sheep raising say that it pays from fifty to seventy per cent. profit per year over all expenses, and horse-raising is said to pay equally well.

In Walla Walla county fruit has been thoroughly tested for a number of years, and is found to be a complete success. All kinds of grain and vegetables do well here, but wheat is our "specialty." We think the average yield of wheat is from thirty to forty bushels to the acre.

GRANDE RONDE VALLEY.—A gentleman who is just from Grand Ronde valley informs us that times are rather dull over there. He says that they have an abundant crop, but that wheat only sells at 37½ cents per bushel at the mills. It is easy to believe that times will not be very flush when this is the case. That valley is like ours, only a little more so, it is as fruitful as could be wished, but is in a worse condition for market. The farmers are improving their farms more, and building

better houses than ever before, but that their chief reliance now is their stock. That is also too good a valley to be long in want of means to send their surplus grain to market.

MONTANA.

THE GRAIN YIELD.—Says the *Missoula Courier*: Now that our farmers have harvested most of their grain and begun to thresh, they are enabled to make an approximate estimate of the yield regarding their labors for the past season. Wheat and oats are generally very plump in the grain, even where the straw was too short for binding; and where water was freely furnished, the yield per acre has been very large, ranging from 30 to 40 bushels. The estimate for Bitter Root Valley is about 50,000 bushels, and the balance of the county 30,000 to 40,000 more. In price it will range in market at \$1.50 to \$2.00 per bushel.

IRRIGATION.—The same paper says that the settlers in the Bitter Root Valley, are turning their attention pretty generally to the benefits arising from irrigation, and already are we shown an increase of 30,000 bushels, according to estimate, over last year. The Mammoth Ditch sends its waters out so as to cover many thousands of acres.

GOOD YIELD.—Mr. P. E. Evans informs the *New Northwest* of Deer Lodge that he had harvested 1,000 pounds of fine, plump rye from 25 pounds of seed. Mr. Evans says his wheat will average 33 bushels to the acre.

FLOUR MILL WANTED.—The same paper says there is great need of a flour mill in Deer Lodge. It is thought that 20,000 bushels of wheat will be raised next year in that valley, if such a mill is put up there. Such an improvement would more-over develop a great, profitable, permanent resource; have good effect in settling the unoccupied lands, add to the industrious and productive element of the country, provide against flour famines like that which threatened two or three months ago, and withal, it would be one of the best paying investments that could be made. Who will build the mill?

COLORADO.

TERRITORIAL FAIR.—The Sixth Annual Exhibition of the Colorado Agricultural and Industrial Association, will be held at Denver from the 19th to the 23d inclusive, of September, 1871.

We are in receipt of a pamphlet giving the regulations and premiums, from a hasty glance at which a stranger might be led to believe that mining is not one of the important industrial pursuits of the territory.

UTAH.

THE AGRICULTURAL FAIR.—The *Salt Lake Review* complains that Utah, a territory nearly 25 years old and having a population of nearly 100,000, has no Annual Industrial Fair; while Colorado, Montana, Washington, and other territories, each, have such an institution effectually carried out, and that too, with much benefit to the people. The *Review* thinks a great want of energy is manifested on the part of either the citizens or authorities of Utah in this matter. It calls upon the citizens of that territory to wako up and let the world know what they are, and what they can do in that beautiful mountain garden spot. The importance of an early organization of a Territorial Convention is urged.

MISCELLANEOUS.

DEATH FROM A BEE STING.—Mrs. Elizabeth Strang, wife of John L. Strang, a blacksmith doing business at the village of Lyonville, ten miles north of Rochelle, met with sudden death on Tuesday afternoon last, under very painful circumstances. She went into the garden to pick up some apples that had fallen from the trees, and while doing so was stung in the temple, and the pain was at once so great that she started for the house. Getting rapidly worse she laid down on the bed, and, in a time not exceeding five minutes, she was dead. Her face and head immediately commenced swelling and turning black, and when buried the following day she presented a frightful spectacle. Very fleshy naturally, her head had swollen to twice its natural size, and seemed to be a mass in the last stages of decomposition. She was a strong and rugged woman, and being stricken down in the flush of health by an instrument so unthought of, filled the neighborhood with a strange feeling of gloom.—*From the Rochelle, Ill., Register, Aug. 19th.*

GNATS IN THE EYES OF CATTLE.—A serious eye disease among cattle is reported as prevailing in Kansas City, Mo. The supposed cause of the trouble is gnats getting into the eyes of cattle that drink at stagnant pools.

IMPROVED SWINE.

Much interest is being taken at the present time in improving our breeds of swine in California, and we are frequently in receipt of letters asking information upon the subject. As one of the most popular and really valuable varieties, is the White Chester, we have thought it might be interesting to many of our readers to learn something of the character and origin of this breed. To that end we have procured the accompanying engraving, a faithful portrait of one lately in possession of Paschall Morris, editor of the *Practical Farmer*, of Philadelphia, who has had much experience in raising this breed of swine, and who is still receiving orders for the same from all parts of the country. Both the engraving and the description which we subjoin, were prepared by Mr. Morris at the request of the Department of Agriculture at Washington, and published in the *Agricultural Report* for 1865. We are indebted to Mr. Morris for the use of the original engraving.

The White Chester Breed of Swine.

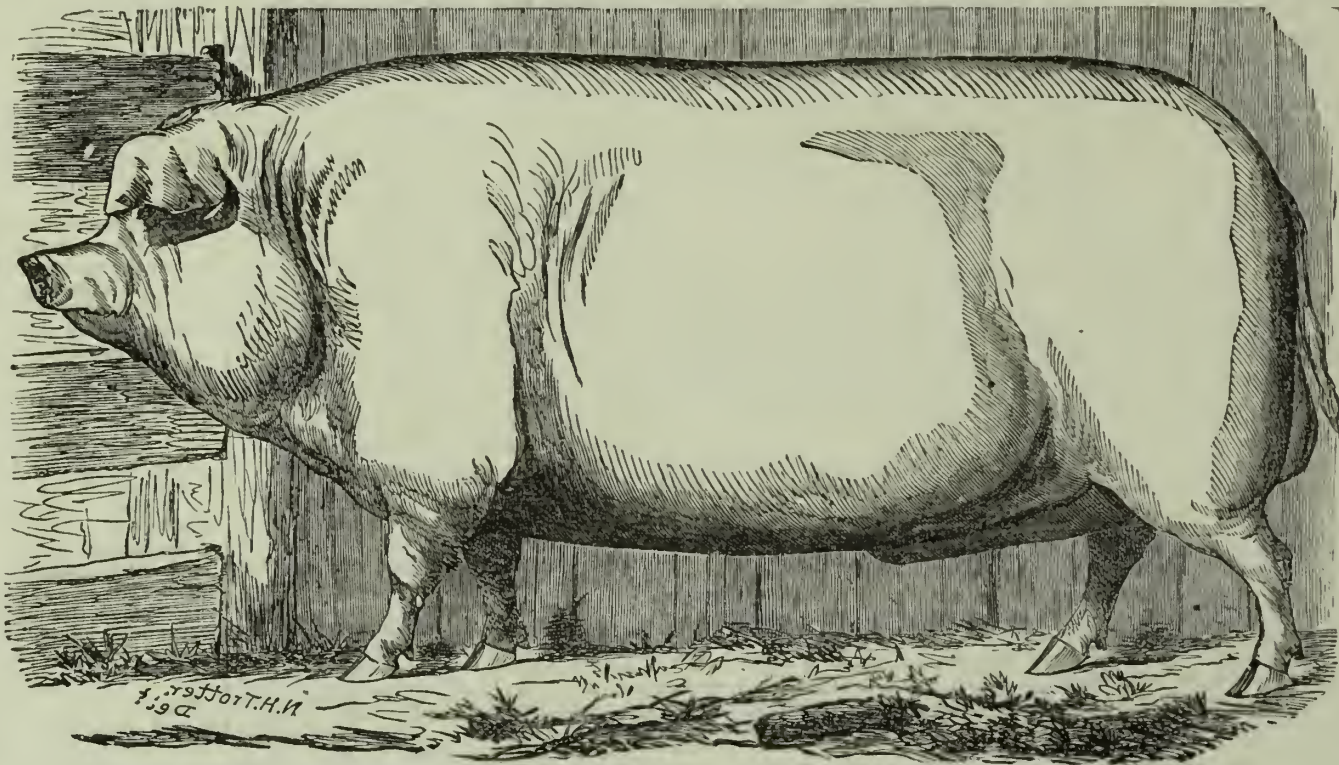
"The most approved and desirable points of the White Chester breed of swine are length and depth of carcass, breadth of back, small bone, very small head in comparison with the size of carcass, full ham, shoulders full and well pushed towards the head, leaving little or no neck, heavy jaw, dished face, thin skin, straight hair, and straight back.

The engraving represents a large and fine animal, combining in considerable perfection all the above points, and weighing about 500 lbs.

His face is remarkably small. This is one of the most difficult points to secure, and is often an indicator of the rest of the figure, as well as of fattening properties. I have always found that a hog with a dish face, short nose, small head, and breadth between the eyes, is right nearly everywhere else, and is an easy and quiet feeder. On the other hand, a long nose, and a long and large head, indicate, in a general way, a hard and uneasy feeder and a great consumer.

The White Chester breed of swine is not an original, but a "made-up" breed, being a cross between the best native stock of Chester county and an imported Bedfordshire boar. He was imported by Captain James Jeffries, more than forty years ago, and his stock was well distributed over the country. The differences now observed, sometimes, in the White Chesters, so that they can hardly be identified as one breed, are owing to extra care taken by some farmers in selecting their breeding stock, or to their various fancies. Some prefer an erect ear, others a lop-ear; some prefer a slight curliness or wave of the hair, others to have it perfectly straight; some do not wish a large carcass, but a small and compact one, attaining a weight, at a year old, of about 300 pounds. The western farmers, living where corn is plenty, require a very large animal. These differences do not detract from the merits of the Chester County hog, as regards good general figure, easy feeding, and a capacity to return a greater weight and value for food consumed than any other breed now known. Farmers who breed for weight, usually estimate a gain of one pound per day till they are two years old, and these very often far exceed this. They have attained a weight of over 900 pounds, and 500 to 800 pounds is very common.

That the Chester County pig is not an original, but a mixed breed, is proved in the very great variety in their appearance and in feeding qualities. Like does not produce like in all cases; and what is called "breeding back" is quite common. There is no absolute certainty of the offspring being like either sire or dam. Very fine and perfectly shaped sows often have indifferent pigs, and very fine pigs are also occasionally produced from ill-shapen mothers. Sometimes blue spots on the skin and black spots in the hair occur. These are probably to be traced to a cross of Berkshire, a breed at one time quite common in Chester County. Improved stock of every description, to be kept up to a certain standard, requires continuous care in feeding and breeding. Hence the common saying, as respects swine, that "the breed is in the trough." While it must be admitted that the good points and properties of the Chester County breed are not so confirmed and established, that like will always produce like, there is yet, taking the best samples, so full a development of nearly perfect figure, quiet habits, and fattening tendencies, as to make a capital ground-work, which some energetic farmer may use as a starting-point, as Bakewell, and Ellmann, and Webb did with sheep, and bring up the White Chest-



WHITE CHESTER BOAR—Property of Mr. Paschall Morris, Philadelphia, Pa.

ers to a still higher standard and a more determined type.

The hog is often the poor man's main reliance, every portion of it being susceptible of use; and if his weight at a given age can be doubled on the same amount of food, a vast benefit will be conferred on the economic interests of the masses, and a large addition to the aggregate wealth of the country."

A NOVEL FRUIT DRYING APPARATUS.—A new device for drying fruit is being largely employed in the State of Delaware, and is said to work admirably well. It is described as follows: "The machinery used for this new process consists of a steam engine and "evaporator." The latter is a wooden receptacle fifteen feet high and five feet square. At each corner on the outside is an endless chain passing up and into the top of the evaporator; upon loose bearers attached to the chains are wire hurdles, five feet square, twenty in number, nine inches apart, on which the fruit is placed. A steam coil of 3,000 feet, heated to 180 degrees by steam from the boiler is at the bottom of the evaporator, the heat being tempered with cold air worked by a fan. The fruit is put into the evaporator at the top, and when it reaches the bottom all the watery parts are evaporated while the fruity parts are preserved and the saccharine matter increased in proportion. The hurdles attached to the chains are worked with a crank. The fruit thus preserved is packed in 2-lb paper boxes for the market. From eight to ten pounds of preserved peaches are obtained from a bushel, four pounds of tomatoes to the bushel, and of berries a greater proportion."

It is claimed that fruit thus preserved can be sold for half the price of canned fruit.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING AUGUST 29.

BEDSTEAD FASTENING.—Elisha T. Barlow, San Francisco, Cal.
AEROSTATIC JACK.—Anthony V. Ojeda, San Francisco, Cal.
DENTAL PLATE.—Smiley Purvine and Harrison Smith, Salem, Oregon.
APPARATUS FOR UNLOADING HAY, ETC.—Edmund Harrison, Mountain View, Cal.
HARVESTER.—James Hazel Adamson, Auburn, South Australia.
HAY PRESS.—Oscar Bosseé, Millbrae, Cal.
PAVEMENT FOR STREETS, ETC.—William H. De Valin, Sacramento, Cal.
CAN-OPENER.—Edward M. Dewey, San Francisco, Cal.
TUBULAR STEAM BOILER.—Oliver Hyde, Oakland, Cal.

grinding mill is secured to one side of the feed-box, and has suitable grinding apparatus within which is actuated by connections from the fly-wheel.

MACHINE FOR TURNING SPIRAL MOULDINGS.—Ed. A. Stockton, S. F. The object of this invention is the construction of a machine in which spiral mouldings can be readily turned by simply putting a square stick of the proper size, through the machine, and it consists first in the employment of a novel device for turning the stick, to form the spiral, as it passes through; and secondly, in passing the stick after it has been rounded, through a peculiar feeding cut or barrel into which a V-shaped cutter extends and forms a groove, and this groove in combination with a screw thread, feeds the stick forward. It also consists in the use of a lateral bit, or chisel which revolves so as to always cut the wood with the grain, and thus avoid giving a rough surface.

BLIND SLAT RIVING MACHINE.—Paul Schumacher, S. F. Cal. This invention relates to certain improvements in machines for riving or splitting out the slats used for window blinds or shades, and it consists of a suitable box in the bottom of

which are fixed a number of cutting knives. A sliding frame is arranged to be moved forward and back inside this box, and it carries the block from which the blind slats are to be cut. This block is pressed down by rollers which are fed downward automatically after each cut.

ROASTING FURNACE FOR ORES.—Knox & Osborne, S. F., Cal. This furnace is an improvement upon one for which a patent was obtained by the same parties June 14th, 1870, in which a series of pigeon holes admitted the heat to the ore, and another series upon the opposite side carried it off

after the work was done. In the present case the furnace is constructed with a series of vertical arches, each lower arch receding from the one above, so that their angle will be greater than that slope at which the ore will stand, and the clogging of the openings or pigeon holes is thus avoided. It also consists in the use of a feeding device or box which can be filled with the brush usually used for fuel, and then when the door is opened it can be swung in and discharged, and the door instantly closed to prevent the escape of heat.

WASHING MACHINE.—Alfred T. Sullivan, San José, Cal. This invention relates to an improvement in the machines used for washing clothes, and it consists in the employment of an endless slat board peculiarly mounted inside a suitably shaped suds box. Rollers are arranged above this band, between which and the band, the fabric to be washed is placed. A curved washboard is given a backward and forward rubbing movement over the rollers, by means of a peculiar arrangement of crank arms.

BELT CLASP FOR SIDE-ARM SHEATHS.—Joseph M. Frey, Sacramento, Cal. This invention relates to certain improvement in the clasps employed to secure the sheaths, holsters or scabbards of side arms to the belt, and it consists of a small hook or pointed leg which projects from the free end of the belt hook so as to enter a slot in the opposite or fixed side, when the two ends are brought together. This hook prevents the sheath from being unfastened and lost by any means.

BADGE.—Nathan Joseph, San Francisco, Cal.

BADGE.—Nathan Joseph, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

FEED CUTTER AND GRINDING MILL.—Carlos R. Donner, Sonora, Cal. This invention relates to certain improvements in feed cutters and grinding mills combined, and it consists first, in an improved arrangement of mechanism for feeding forward the straw or hay to the knife; and secondly, in the employment of a grinding mill for grain feed, which shall be actuated by the same mechanism which drives the cutter. The feed box is of the ordinary shape and is constructed with a pair of wheels which can be raised or lowered by the movement of one pair of legs so that when the wheels rest upon the ground, these legs serve as handles by which to move the machine from place to place. The cutting knife is curved, and secured with its guard to one of the arms of the fly-wheel, which revolves at right angles across the front of the box. A cylinder is secured to the shaft of the wheel and this has a cam groove made in it, so as to actuate an arm which extends down to it from a shaft across the top of the feed-box. The

CANAL PROPULSION.

Since the one hundred thousand dollar reward was offered by the State of New York for the best device or means for propelling canal boats, the ingenious *geniuses* of the country have been laboring with an eye to the acquirement of this handsome prize. Many of the plans suggested have merit, but the trouble seems to be that the requirements of the law under which the prize is to be awarded, are such, that but few can enter their plans for competition. For instance, it is required that at least three trips must be made between Buffalo or Oswego and New York with each device presented for competition, at the expense of the person presenting it. Now this alone, if no other obstacle were presented, will debar hundreds of inventors from presenting their improvements, as in most instances the outlay required will be more than they can afford.

The consequence then will be that the contest will be confined to the few who have means enough to encounter the necessary expense, or who can induce some capitalist to invest the money for a chance in the prize. After all it may be that the very object aimed at by the law, will be defeated by its own conditions.

It is well enough to offer a reward for inventions of value to the public; but the mechanic of small means should be given a show, as it is from them, as a general rule, that the best and most practical inventions emanate.

Such laws are usually framed and lobbied through the Legislature for a purpose; and if this law had been passed in California instead of New York, we should conclude at once that the whole thing was a "put up job" to put the public money in the pocket of a certain person, for whose benefit it was purposely made; in other words, that it was the work of a "ring." But as they do not do such things in New York (?), we refrain from making the remark.

Nothing would please us more than to learn that some inventor upon this coast had obtained this prize. We should then "get even" with New York for the \$100,000 which was swooped out of this State by the holder of the lucky ticket in the "Mercantile Library Lottery."

The one device which seems to meet with most favor, and the one which many already acknowledge bids fair to win this large prize, is the one designed and operated by Mr. Thomas Main, mechanical engineer, of New York. This device consists first, in remodelling the construction of the canal boats now in use by leaving a channel extending the entire length of the boat, underneath its bottom, so that it will have two keels—one at each side; and secondly, by placing the propeller in the forward end of the boat, so as to work in the channel thus formed. By this arrangement the agitated water is compelled to pass under the entire length of the boat, during which time it is "smoothed out," as it were, thus preventing any side wash upon the banks of the canal. Other improvements have also been added in the way of machinery, and altogether this may be considered the winning boat,—a fact, we doubt not, well known to the inventor long before the law offering the prize was passed. The *Scientific American* speaking of this vessel says:

A boat constructed on this principle has been for some time regularly employed upon the Erie Canal in N. Y., carrying, besides the machinery, 200 tons of cargo, at a rate of three miles per hour, including lockages, or seventy-two miles in twenty-four hours, consuming only a ton of coal, \$5, against \$28.50 for two horses' towage for the same distance—a saving of half the wages of the crew, and transporting the goods in the same proportion of time—and, additional to its own cargo, it can tow a similar barge at very nearly the same speed. This boat can go through a lock in

six minutes, against twelve minutes required for a horse boat, and is then handled by one man with ease. There is no injurious action on the banks, and the boat can leave the canal and proceed as quickly and safely on river navigation with her self-contained power. In twelve months, such a boat, 70 feet long by 16 feet wide, and 9 feet depth of hold, with an 8 inch cylinder, driving a $4\frac{1}{2}$ feet propeller, can pay for her entire cost from the saving over horse boats, to say nothing of the certainty and dispatch which alone insures the confidence of the mercantile community, and is the foundation of extensive patronage.

With this record it is hardly possible for any device now known to step in ahead and take the prize, even if the law was not made with special reference to it.

There is one question, however, that naturally suggests itself in this connection: If the idea of the law makers was to reward the inventor of this device, why offer false inducements to cause the mechanics of the country generally, the most of whom already have hard work to support themselves and families, to spend their time and money for nothing? The above device seems to fulfil every condition of the law, and besides, it "has been for some time regularly employed on the Erie Canal," so that its existence and value was certainly known to all concerned in framing the law previous to its enactment.

We do not wish it understood that we oppose the offering of a handsome prize for valuable inventions; but what we do oppose is the special legislation of money out of the pockets of the people into the pockets of a certain person, and his admirers and followers, by blinding the people with a law pretended to be for the benefit of all. If the invention is a valuable one, its proprietorship will be the inventor's reward.

What we would like to see would be a law appropriating \$75,000 to be used in testing the inventions which promise the best results, and the remaining \$25,000 to be a premium to the inventor of the one chosen as the best. This would offer inducements to every class of inventors and would in the end produce the best practical results.

Characteristics of the Brain in Different Animals.

Prof. Wilder at a late meeting of the Ithaca Farmers' Club, showed the brain of a kitten a day or two old. It had quite an imperfect appearance as compared with the brain of an old cat. The reason, he said, is obvious, the kitten is born blind and helpless; it learns to move and act—hence it is born with but partially developed brain. There was also the brain of a calf and of a steer—both were nearly alike except as to size. The reason is obvious—the calf at once or soon is to use its limbs and all its faculties, and hence its brain is so perfect.

Dr. S. J. Parker, called attention to the four brains exhibited by Prof. Wilder. Those of the calf and steer are coarse in their convolutions, both in the cerebrum and cerebellum, while the cat has a finer convolution in her cerebrum and a very fine convoluted cerebellum. He says the reason for this is also plain. The motions of the calf and cow are coarse and rough compared with the cat. The mind of a cat is limited in capacity, but keen and exact as far as it goes, hence the coarser cerebrum, while the motions of a cat are peculiarly graceful and brilliant, hence the fine texture of the cerebellum. If, then, the theory is true that the cerebrum is the organ of the body by which the mind acts, and the cerebellum is the organ of muscular combinations, then this exhibition of brains corresponds with our knowledge, and is a happy proof of our ascertained facts. Such are the uses of the exhibitions of these specimens.

TRAINING HORSES.—An ingenious German has gained a great reputation in New York by his success in training coach-horses to a grand gait. He used no burbit or other cruel contrivance, and people couldn't see how he did it until it was found that he put magnifying goggles upon his horses, which made cobblestones look like boulders, and they acquired a grand tread by trying to step over them.

GOOD HEALTH.

Disinfecting Excreta.

It is of the greatest importance that people be made to know that human excreta from all persons affected with typhoid fever, scarlet fever, cholera and other infectious diseases should at once be disinfected by diluted carbolic acid, or sulphate of iron. Typhoid fever for instance, often spreads through a family, or a neighborhood by means of the water used; but it is likely that ten times as many cases are generated by means of the poison passing through the air. Now how does the poison get into the air, and find its way to the bodies of other persons in such quantities often as to assume an epidemic form? Mainly, it is believed, by the excreta. Disinfect this. Kill these poison-germs that arise into the air in swarms, and there is little danger of the spread of infectious diseases. We do not claim that all infectious diseases come from germs generated in the excreta, but in civilized communities a majority of them either arise from the excreta, the breath, or the skin. Kill them as fast as formed without injury to the body, and you at once prevent the spread of the disease. Dr. Budd, an eminent English physician, declares that "from the day when I first began to think on these subjects, I have never heard a doubt that the specific cause of contagious fevers must be living germs." These living germs are generated in the filth of the world. Prevent them from breeding, and you prevent most of the diseases that afflict the race. The amount of excreta that accumulates about the dwellings of every family is very great. Even from healthy persons it may cause disease. To prevent this we advise general disinfection and cleanliness—one of the most important hygienic agencies in preventing the spread of disease that we can at present adopt.

Meat in Summer.

Whatever may be said in regard to the use of meats generally, there is scarcely a question that the less meat eaten during hot weather the better. In the first place, the process of decomposition commences in meats the moment the animal is slaughtered, and continues without cessation, unless arrested by salting, smoking, etc., until it is entirely decomposed. In hot weather this process proceeds very rapidly. Meat just from the butcher is always tough, and it must become partly decomposed before it becomes tender and fit to eat. It is this decomposition that makes it tender, and the further this process has proceeded, the tenderer the meat. The eating of meats in this condition, especially in hot weather, poisons the blood with the products of decomposition, stimulates the system to unnatural action, increases the heat, produces a general condition of feverishness, and renders the person more liable to fevers, inflammations, and other diseases. If the meat gets a little too "tender," it is almost certain to bring on an attack of diarrhea, and many cases are caused in this way. If you value health and comfort, use meats sparingly and fruits and vegetables freely during hot weather, if at no other time.—*Herald of Health.*

VENTILATION.—The experience of Dr. Gray in his attempts to perfect the ventilation of the Utica Asylum, points clearly to the fundamental fact that no very large building can be ventilated with currents of air produced by heat alone. Artificial currents produced by mechanical power must be employed. The means used in this institution are a large and powerful fan wheel, driven by a fine Corliss steam engine. By its constant action, every nook and corner of the vast building was kept in a delightful state of coolness on the day of our visit, though the thermometer indicated 80 deg. Fah. in the shade. A large volume of air was constantly flowing through the various wards, yet there was no perceptible current.

A QUICK RECOVERY.—A Scottish trader was constantly afraid of his health, and imagined himself ill of every epidemic that was going. At length the cattle plague broke out, and he persuaded himself that he was ill with the disease, and sent in haste for the doctor, going over the symptoms of which he had read in the papers, all of which he fancied he had. "I hope you don't really feel so," said the M. D., "for there is an order by the Privy Council that every beast with these symptoms, must immediately be shot." The trader was soon well again.

Compression of the Feet.

This is a common practice, that often results in distortion. When we are walking with the feet unrestrained, each foot as it receives the weight of the body, broadens slightly, and lengthens to the extent of half an inch or more. Freedom of motion in the foot itself is thus seen to be a natural requisite, and without it, ease, grace, and comfort in walking are out of the question. Compression by the boot or shoe not only prevents this freedom of action, but also gives rise to deformity of the feet. The sole of the boot should be as wide as, and somewhat longer than the foot, when the weight of the body is resting upon it. The upper leather requires to be soft and yielding, and not so tight as to pinch the foot down upon the sole. The toe of the boot ought to be wide, leaving the toes perfect freedom of movement. If too narrow, they are made to override each other, thus producing the ingrowing toe-nails, corns, bunions, etc. The heels should be low and broad, so as to furnish a firm support. High heels throw the feet forward toward the points of the boots, and tend to produce flattening of the arch of the foot.—*Herald of Health.*

SLEEPING ON THE RIGHT SIDE.—Sleeping on the right side, in addition to permitting a freer action of the heart, has the great advantage of favoring the escape, through the pyloric orifice of the stomach, of that organ's contents by gravitation; the stomach then lying in an inclined position from left to right, which it also assumes when one is in the erect attitude. For people who limit themselves to light or easily digested suppers, or who go supperless to bed, the posture of rest may be a matter of indifference; but to individuals who are inclined to rotundity, or indulgence in hot suppers and accompaniments, the best way to avoid, or facilitate escape from uneasy sensations, is a question of interest.

DOCTORS AND THEIR FEES IN THE "OLD TIMES" IN IRELAND.—The *Medical Gazette* says: "The following curious mode of providing for the payment of the medical profession, prevailed in Ireland under the Brehon laws prior to the thirteenth century. A law in relation to the doctors, enacted that their fees should be proportioned to the rank of the patient, and the nature of the complaint. It was also held that no fee should be paid unless a cure were effected. Fourteen *cumhals*, or forty-two cows, for example, were the fee for curing a bishop, or local chief, while the health and bodily welfare of a member of the lowest rank of the tribe, were valued at six cows."

AIR BEDS IN THE MORNING.—The wise housekeeper should see to it that all the beds should be aired immediately after being occupied. The impurities which emanate from the human body from insensible perspiration, are made up of minute atoms, which, if allowed to remain long, are absorbed by the bed, and will then, to a greater or less extent, vitiate the air for a considerable time afterward. Let the occupant throw the bed open on rising, and as soon as convenient open the windows and ventilate the sleeping-room. One hour's early ventilation is worth two hours' late airing.

MEDICAL KNOWLEDGE IMPORTANT FOR ALL.—It is a duty which every man owes to himself, to his family, and to the community in which he lives, to have sufficient knowledge of medicine, that under all ordinary circumstances he may be able to preserve his own health, act intelligently in concert with others to preserve the health of the community, give assistance in case of accident, and aid the physician in the case of disease by proper care and good nursing.

QUININE BISCUITS.—One of the London bakers has introduced a dietetic novelty in the shape of quinine biscuit. Each biscuit is estimated to contain one-fourth of a grain of quinine, and for delicate stomachs, or where it is desirable to disguise medicine as much as possible, or to combine food with medicine in a perfectly agreeable form, these biscuits are likely to become very popular.

CARPETED FLOORS.—When a carpet is taken up to be cleaned, the floor beneath it is generally very much covered with dust. This dust is very fine and dry, and poisonous to the lungs. Before removing it, sprinkle the floor with very dilute carbolic acid, to kill any poisonous germs that may be present, and to thoroughly disinfect the floor and render it sweet.



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SAN FRANCISCO:

Saturday, Sept. 16, 1871.

Our Weekly Crop.

We have this week added to our stock of
Celebrated Horses one of California's own—
the celebrated Lodi, whose portrait we hang up
in a conspicuous place; after viewing which we
pass in review the Wheat Market, examine
some superior Montana Wheat and note the in-
tended Visit of Scientists to California. After
a brief visit to our Mechanical and Scientific
library we gather an interesting collection of
Hints for the Farm, and learn some important
facts with regard to the use Water Pipe for
Household Purposes.

We next pass on to the Dairy where we learn
all about How Cheese is Made; then step for a
moment into the Flower Garden where we find
much to admire and interest, and hasten on to
take our usual Agricultural Notes of the Pacific
Coast for the past week.

This being the season of Fairs and Stock Ex-
hibitions, we here present a Mammoth Hog of
the White Chester breed, which we enter for
competition against the whole Pacific Coast.
We next pass to the examination of Sundry
California Inventions, and the examination of
a new method of Canal Propulsion which is not
of California origin, and then listen to the usual
interesting and instructive talk of the doctor on
Good Health.

The recent election leads to a consideration
of some of the Bad Legislation in the past in
relation to the farming interests, which we
trust will be properly amended.

We now pay a short visit to the San Joaquin
Agricultural Exhibition at Stockton, where we
see much to admire. In returning to take a
few more Notes of the S. F. Institute Fair, we
stop a moment to examine a newly invented Im-
proved Oar.

Then after a brief visit to the Home Circle
we proceed to the Pavilion to witness the Close
of the Fair, and after learning the Best Vari-
eties of Fruit to Cultivate in California, we pass
to the examination of the Market Reports, and
thus conclude our labors for the week.

OUT of three hundred and seven mil-
lions of people carried on English rail-
roads in 1869, only seventeen were killed by
causes beyond their own control, while in
the streets of London one hundred and
forty persons were killed. It is esti-
mated that the orange-peel thrown on
London pavements kills more than all the
English railroads.

THE SONOMA GRAPE GROWERS' ASSOCI-
ATION.—We have received a report of the
meeting of this Association, which was
held at Napa on the 9th inst; but too late
for insertion to-day. It will appear next
week.

CHICAGO LARD is being received at the
rate of one and two car loads per week,
and finds ready sale, three car loads having
been sold in this city the past week.

BAD LEGISLATION.

From one stand point, whatever legisla-
tion encourages and fosters the agricul-
tural, mechanical, and manufacturing in-
dustries of the State, and adds to the gen-
eral prosperity of the country, we call
good.

On the other hand, that legislation, the
tendency of which, is to discourage these
industries, and retard the country's pros-
perity, must necessarily be bad. England
owes her superiority, as a manufacturing
and commercial country, to her judicious
legislation for the encouragement of these
great industries.

France became one of the first silk pro-
ducing countries in the world under the
fostering care of favorable legislation.

Among our own States those that have
given the greatest assistance and en-
couragement to agriculture, manufacture,
and the mechanical arts—whether directly
or indirectly through agricultural and me-
chanical organizations, are to-day in the
enjoyment of the greatest degree of mate-
rial prosperity.

The present condition of our own State
requires a careful system of legislation on
these subjects. We looked to the last Leg-
islature with strong hopes that they would
comprehend our wants—the wants and
necessities of the laboring and industrial
classes; but that Legislature seems to have
been extremely unfortunate in this re-
spect. Every statute that had been placed
upon the statute book by previous Legisla-
tures, with a direct reference to these ob-
jects, was by the last Legislature repealed,
and those having an opposite tendency
enacted in their stead.

For instance, in 1862, an act was passed
for the encouragement of agriculture and
manufactures in California. This act of-
fered small premiums for the successful
production of sugar or molasses from beet
root, sorghum or cane; for flax, hemp, cot-
ton, tobacco, hops, raw silk, tea, coffee,
rice, and many other new and strictly ag-
ricultural products. It also offered pre-
miums for many articles of manufacture
new to this State, but which ought to be
manufactured here, and could be, if prop-
erly encouraged. The encouragement of
such industries has the effect to draw
money from the banks and put it in gen-
eral circulation among the people—the la-
boring class of the country; to stimulate
enterprise, experiment, and invention; and
to add to the general life and prosperity.
The amount of premiums offered are gen-
erally trivial, compared to the increased
taxable property thus brought into exist-
ence; and practically it is generally found
that the increased taxes collected much
more than pay for the premiums called for.

The Lottery bill is another instance of
bad legislation. To say nothing of the im-
moral tendency of this legislation, which
of itself should have condemned it, the
effect on the industries of this State has
been very bad. It has drawn not much
less than three millions of money from cir-
culation among the poor and working
classes throughout the State, and concen-
trated it in the large towns and cities. It
has taken it from the many, in small sums,
and given it to the few, in large sums,
without any exchange of consideration
passing between them. It has drawn this
large amount of money directly from the
productive industries of the country—from
the farming, mechanical, and manufactur-
ing operations, and employed it in non-
productive operations, in games of chance,
which have not only been of no benefit to
the country or to individuals, but a great
damage to all.

The direct operation of this law has been
to make the rich richer, and the poor
poorer. Legislation in reference to the ma-
terial industries should always be directed
so as to induce the active employment of
capital when it will give employment to

labor, and beget habits of frugality and in-
dustry among the laboring classes. The
tendency and direct result of the legisla-
tion above mentioned, has been wholly the
reverse of these—to concentrate the money
in the hands of the few and to beget habits
of recklessness and indifference. There
were many other laws passed by the last
Legislature, having the same tendency;
but we will consider them at another time.

FAIR OF THE SAN JOAQUIN VALLEY AGRICULTURAL SOCIETY.

This Fair commenced on Tuesday, the
11th, and continued four days. Our re-
porter arrived on the ground at 2 o'clock
the first day, and was obliged to leave on
the next at 12, so that the time for ob-
servation was rather short; but owing to
the kind attentions of the efficient Secre-
tary, Mr. H. T. Compton, and the very
obliging assistance of the energetic Presi-
dent, Mr. J. K. Doak, he was enabled to
see a good deal in a very short time.

When he entered the Pavilion, immedi-
ately after his arrival, everything was in
confusion, as it generally is on the first
day of our Fairs. Carpenters were still at
work preparing tables, shelves, etc., for
goods. Goods of every description were
being brought into the building and every
body seemed to be working as if the char-
acter of the exhibition and good name of
the Society depended on his or her indi-
vidual exertion.

Among the managers whose services and
advice seemed to be in great demand, and
who was working like a Trojan, was Gen-
eral B. F. Douglass. The General takes a
great interest in the development of the
resources of this portion of the State and
is always one of the moving spirits of this
prosperous society's Fairs.

Leaving the bustle of the Pavilion, we
stepped into a buss and soon found our-
selves on the stock ground where there was
a fine display of good stock of all classes.

Cattle.

The principal exhibitors are W. L.
Overhiser, of San Joaquin; Col. Younger,
of Santa Clara; and Peter Saxe, of Sacra-
mento. Overhiser shows some 17 head of
full blood Short Horn Durhams, Col.
Younger 20 head, and Mr. Saxe 10 head.
As all will be on exhibition at the State
Fair, we refrain from speaking of them
particularly in this report.

Horses, Mares and Fillies.

Andrew Wolf, stallion Correct, 8 years
old, by Belmont.
J. E. Tyree, stallions Veto and Blair, by
Belmont and Jack Hawkins. Mares, Car-
rie Miller and—, by Norfolk and Veto.
Charles Blood, stallion Romulus, by Ni-
na Sahib.
James Butterly stallions Parlee and Gen-
eral McDowell, the first by Lodi; also stal-
lion Nina Sahib.

Geldings.

John E. Tyree, Modesto, by Veto and
Stonewall Jackson—graded.

Stallions and Mares For all Purposes.

James McDermott, stallion Jack Haw-
kins, 2 years old.
Dodge & Noyes, Stallion Chieftain, 14
years.
W. D. Beardsley, stallion Ontario, 3
years.
W. L. Overhiser, sucking colt Maid of
Oak Home.
John H. Tone, stallion New York, and
mare not named.
W. D. Ashley, stallions Rising Star and
Bismarck.
W. L. Overhiser, mare Miranda.

Sweepstakes.

John H. Tone, 1 jennet and colt; 1 mare;
stallion New York; 1 jennet.
J. L. Cornduff, Clydesdale draft stallion,
crossed.

Sweepstakes—Sheep.

Peter Saxe, of Kentucky, 2 thorough-
bred Cotswolds, buck and ewe.
Smith & Overhiser, 2 head Spanish me-
rino and 2 head French merino, 2 bucks
and 2 ewes.

Draught Horses—Mares or Geldings.

J. L. Carnduff, of San Joaquin, stallion
Clydesdale.

Best Roadsters.

Wm. D. Ashley, of San Joaquin, mare,
Laura, 6 years old.

Sheep—Bucks one Year Old and Upwards.

Smith & Overhiser, 1 Spanish merino; 1
French merino.

Best Collection of Sheep—French and Spanish
Merinos.

Smith & Overhiser, San Joaquin, 24 head
bucks and ewes.

The Exhibition of Fine Fowls

is very extensive, and really a feature of
the Fair. As the parties intend exhibiting
at the State Fair, we will omit a description
of them until they are shown there, where
they will meet a large array of "birds of a
feather."

The Pavilion in the Evening.

Returning to the Pavilion in the evening,
we found that a great change had taken
place during our absence of two or three
hours. Order had taken the place of con-
fusion; goods were neatly and tastefully ar-
ranged in their places, and every part of
the building was crowded with intelligent
and interested spectators intently engaged
in examining articles on exhibition. Af-
ter taking a general view of the exhibition,
the arrangement and effect of which is very
good, we next turned our attention to par-
ticulars, and especially to exhibitors of

Home Manufactures.

The Stockton Woollen Mills show a table
of woollen blankets of various qualities of
fine material and superior manufacture.
The mills are doing a good and safe busi-
ness and are a credit to the city.

H. T. Downer exhibits a very fine apart-
ment of home-made harness, men's and
women's saddles, bridles, halters, etc., of
good material and workmanship. Kull-
man, Wagner & Co., make a very fine ex-
hibition of leather manufactured at their
tannery at Stockton, embracing leather de-
signed for most all purposes for which this
article is used.

Henderson & Clark have a large apart-
ment of buggies and carriages, of good
style and superior workmanship.

Mattison & Williamson, are on hand with
their agricultural implements—gang plows,
single plows, cultivators, etc., which they
challenge the world to beat.

Jones & Hewlett exhibit the Thompson
Road Steamer and gang of plows, which
they propose to enter for the \$200 premium
offered by the State Society for the best
steam plow.

Wood, Taber & Co., and J. B. Webster,
and S. M. Cutting, each exhibit an assort-
ment of agricultural implements.

J. Alexander shows six large cheese
which look as though they were good.

C. Detten exhibits fourteen varieties of
wines, supposed to be Detten's, best, also
twenty-four varieties of grapes and some
soft-shell almonds.

Peter Mungel has a case of custom made
boots and shoes of superior workmanship.

J. F. Fugazi, of Sacramento, shows a
case of hair-dye, cologne, etc., of his own
manufacture.

The Stockton Portable Gas Machine,
exhibited by Bartlett & Biven, attracts a
great deal of attention, and if we may judge
by the brilliant yet soft and pleasant light
it gives out, is a very valuable invention.

J. E. McKenzie shows a meal-chest,
spice drawer, and rolling board, combined,
which seems to take the fancy of the la-
dies, and looks like an article of real merit.

A. B. Alexander shows a cotton plant
well filled with matured and unmatured
bolls, and samples of cotton grown by
Strong & Buckley, of Merced county,
which to us looks, what experts say it is,
"good staple."

Mrs. E. Morris shows a fine display of
her home-made men's shirts, which they
say are a perfect love of a fit.

W. H. Keep shows different sizes of his
"Globe Pumps" Cal. invention and manu-
facture.

W. B. West has a table of beautiful cut
flowers most tastefully arranged.

C. G. Ernest also exhibits cut flowers
and pot plants in profusion. These two
exhibitions very appropriately occupy a
central location in the hall, and produce a
pleasing effect and are much admired.

Chas. Williams shows four pieces of rag
carpet woven in Stockton. They remind
one of old Eastern homes when economy
and comfort were the feature of the house-
hold.

The Exhibition of Fruits

is not very extensive, but for the season is
very creditable. It is principally made by
Geo. West, Nicholas Endich, H. S. Sar-
gent and others. The fruit growers are
complaining that their fruit is undersize,

which we find to be the fact almost universally over the State.

J. D. Petin and O. H. Mathews have each on exhibition some very fine samples of grain, principally of wheat, some grown with, and some without irrigation. That irrigated shows much the best.

We would be glad to mention many more very worthy exhibitions particularly, but for want of time must content ourselves by saying that the fair as a whole is a decided success and reflects much credit on the managers, the exhibitors and the city and valley, and serves very plainly to show what this part of the State can do in a favorable season.

NEW METHOD OF UTILIZING THE SOUTH CAROLINA PHOSPHATES.—Hitherto these phosphates have been finely pulverized and in that condition subjected to the action of sulphuric acid, in order to render them soluble, and capable of serving as food for plants. This is quite an expensive process, and one which must be managed with much care and skill to avoid an excess of sulphuric acid, which would be very injurious to the soil; while a short supply of acid fails to render the entire mass capable of being utilized by the plants.

Mr. John Commins, of Charleston, near which city these deposits are found, has discovered a new, cheaper and perfectly sure method of preparing the phosphates, without any use whatever of sulphuric acid, and which, if the results are what he claims for them, is certainly a very important discovery. His process consists in heating the phosphates (which occur in round nodules, generally much harder than ordinary limestone,) in a furnace like a limekiln, and when so heated to allow seawater to drip upon them. By this operation the stone is thoroughly disintegrated—like the slacking of lime—and, as claimed by Mr. Commins, placed in a perfectly soluble condition, capable of being readily assimilated by plants. Aside from the simplicity and cheapness of this process, any method by which sulphuric acid can be dispensed with in the preparation of manures should be received with especial favor. It is to be hoped that the discovery of Mr. C. may prove entirely successful.

CHLOROFORM AND ROBBERY.—It appears to be the opinion of the most eminent medical writers that the reports of the use of chloroform and similar agents in facilitating robberies, etc., of persons while asleep, are without foundation—that such agents cannot be efficiently employed in stupefying persons against their will without alarming them. It is said that its application to a sleeping person is so attended with choking and retching, that the soundest sleeper would likely be waked before stupefaction was complete.

THE "CHRONOPHER" is the name of an instrument which has been devised in England, to furnish correct time to places at a distance. It is proposed, by the use of this instrument—which will be stationed at the Greenwich Observatory, to flash from thence the true time, once a day, to all the principal cities in Europe, and to every post-office in England. Time guns will also be fired, bells struck, and balls dropped by the same current, at different and distant stations. Who says that the present generation takes no note of time?

A similar system to note and register the moment of earthquake movements in different parts of California would be more important than any advantages of the practice elsewhere.

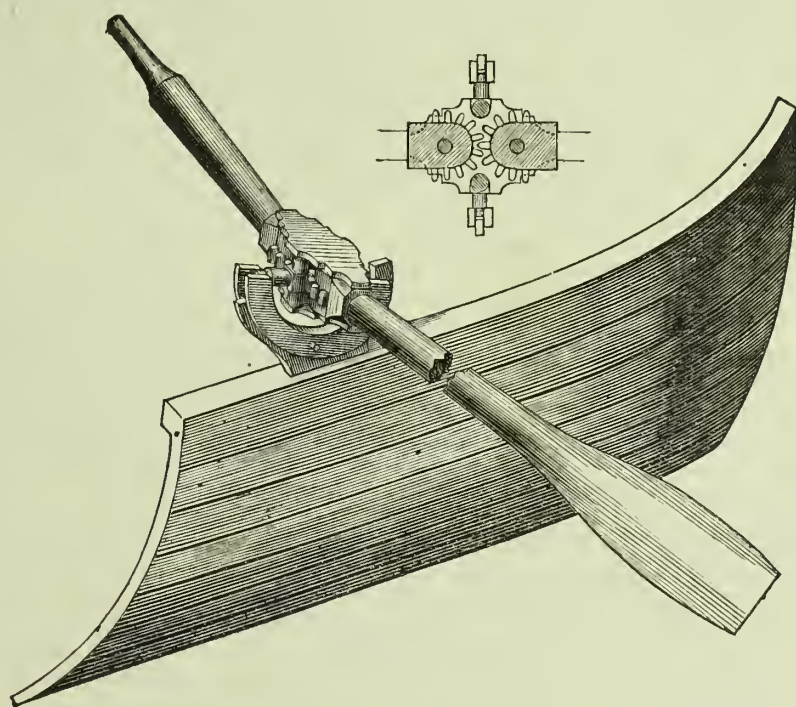
ALMOST FOUR TO ONE.—The total amount of the cereals—wheat, rye, oats, barley, corn, and buckwheat—raised in the United States last year is estimated at one thousand five hundred millions of bushels; or about 38 bushels to each individual in the country. The average consumption is about eight bushels to each person; hence we have for export, for feed, for stock and for distilling purposes about 29½ bushels to each person.

An Improved Oar.

We give herewith an illustration of an invention which is likely to popularize still further the already favorite amusement of rowing.

In the ordinary method the oarsman is obliged to sit with his back in the direction of his boat's course, and consequently if he has no one to steer the boat, he must either run the risk of frequent deviations from his course, and an occasional collision, or be subjected to the alternative of constantly looking over his shoulder, which is very tiresome. Although the practiced oarsman can direct his boat with little difficulty, yet the majority of amateurs will be inclined to favor the new invention if it is made to work to their satisfaction.

With this explanation we will proceed to describe the engraving, which represents a portion of the side or gunwale of a boat having a semi-circle of metal secured to it, as shown. Another semi-circle is formed with flanges and fits into the first one so



PRINGLE & WOOD'S IMPROVED OAR.

that the oar can be turned in the hand or feathered, as it is called, after completing a stroke and while reaching for another. The ore itself is formed in two parts, which meet just over the gunwale, and are each fitted with a metal cap which has teeth on its outer curved end, as shown in the small figure.

Pivots from these caps extend into the plates which lie above and below the joint, so that when the handle of the oar is pulled in one direction the blade will by means of the gearing be made to move in the same direction, thus propelling the boat in the direction to which the operator faces. The inner end of the oar is depressed and the outer end elevated at the termination of a stroke and the oar turns on pivots shown at each side.

The inventors, Thomas Pringle of New York, and John Wood of this city, are desirous of disposing of their interest, either wholly or in part, for this coast. Any further information can be had by calling on or addressing Mr. John Wood, 135 Folsom street, San Francisco.

THE CONTRA COSTA GAZETTE office, at Pacheco, entirely destroyed by fire on the 5th, will be restored with new type next week. Messrs. Bunker & Porter have not only made the *Gazette* a first-class country paper, but given it a higher reputation as a journal of influence and progress, and we hope and trust to see it prosper anew.

NOTES AT THE S. F. MECHANICS' INSTITUTE FAIR.

[In these notes we have room only to notice briefly such articles as come specially under our observation. More replete descriptions of the most interesting and instructive exhibits will be given in the *PRESS* at our greater leisure hereafter. No classified catalogue being published we do not in this number give complete notices in any particular department.]

PRESERVED MEATS.—Messrs. Ross, Dempster & Co., make an exhibit of Australian preserved meats, a commodity which bids fair to form an important article of commerce.

ROTARY DIGGER.—This is a new device for breaking up the soil, invented by Mr. S. Johnson, of this city. The machine is intended as a substitute for plowing, harrowing and cultivating. Mr. J. is about adding an important improvement to the "digger" in the form of knives, which are intended to precede the digger.

CALIFORNIA MADE AUGERS.—We have here another new item of California manufacture, made and exhibited by E. W. Mitchell & Co., of Napa City. These we believe are the first augers ever manufactured in California. They are made of the

significant exhibits in the whole Fair. This new product is remarkable for its whiteness and purity.

HEATH'S DOVETAILING MACHINE is a California improvement which has worked very successfully at Swan, Dunbar & Co.'s factory, in this city. This firm has run a variety of machinery for making boxes, of which product they exhibit.

PATENT WINDMILLS AND HORSEPOWERS. of improved California manufacture, were exhibited by W. I. Tustin.

PINE LEAF HATS.—Mrs. J. H. Nevins has made some fine, handsome hats from California nut (or Digger) pine leaves. They present a greenish color, and if durable, are a novelty worth encouraging.

A WHIP-HOLDER which readily clasps the tip of a spring top whip and allows it to hang straight on the side of the wall, was shown by Weister & Co., No. 17, New Montgomery street. The whip is instantly caught and released upon lowering or raising it in a V shaped clip. It is a cheap device, which straightens and rather improves a whip, which can be placed in it almost as quickly as it can be thrown down in a corner to become bent up.

SMITH'S TRUSS BRIDGE was exhibited in model by the Pacific Bridge Co., of Oakland, W. H. Gorrill, President. It has been introduced on this coast during the past year, by the building of several structures, one of which, at Oroville, has a span of 214 feet in the clear.

GRAPE STEMMER AND CRUSHER.—Schoenstein & Kline inventors and patentees exhibited one of this new class of machinery, which we would advise persons interested in to examine at their place of manufacture, No. 5 Powell st., S. F.

A TUCK MARKER, by John H. Mooney, patentee, is one of the improvements for first-class sewing machines which our lady friends should examine.

THOS. CULLEN'S MAGAZINE RIFLE is one of the most ingenious California inventions yet patented. The breech is made hollow and has four tubes, each of which holds eleven cartridges, which are carried forward and automatically placed in the barrel as the loading apparatus is operated. When one tube is emptied another takes its place and supplies the cartridges, and so on until the gun is discharged 44 times.

THE ENGLISH TELEGRAPH SYSTEM.—Under the management of the Post-office Department, is proving a decided success. While the cost of telegraphing has been greatly reduced, the net earnings have been increased, and during the same time the work of extension and repairing has been more than the average of past years. The time is not far distant when the telegraph system of this country also, will be placed under government control, and be made a part of our post-office system.

TOBACCO grown in a cold climate, is stronger than that grown in a mild one, and a similar statement is true with regard to celery. So it appears from an article in the *Journal of the Pharmaceutical Society*, where it is maintained that in the less vigorous vegetation of cold climates, as compared with that of warm regions, the active principles of plants are more concentrated in the leaves.

A NEW SHEEP ENEMY.—A new and mysterious enemy of sheep, more fatal even than the murderous dogs, has made its appearance and dreadfully ravaged the flocks of Manitowoc, in Wisconsin. The animal being found dead, no marks of violence are to be observed, save a small hole behind the ear from which the blood has been sucked. This has led to the conclusion that the destroyer is a kind of bat, or, more properly speaking, vampire—a creature which even men may fear, since it may not have an exclusive taste for the vital fluid of the muttons. This, with the curculio and potato bug, renders our present assortment of noxious vermin very complete.

REMARKABLE CHERRIES.—The branch containing 354 Queen Anne Cherries from Luellen's nurseries, Oregon, exhibited by Dewey & Co., have been looked upon with surprise by visitors in the horticultural department.

DUTTON'S NEW HARNESS, which has been tested three months, is spoken favorably of. It avoids the use of the ordinary collar and breast-plate, and is one of the most important inventions of the day.

THE PRESERVES, jellies, jams, pickles, canned fruit and vegetables exhibited by P. D. Code & Co., look inviting to the taste. This new firm are making a commendable success of their business in San Francisco.

THE CAL. BEET SUGAR is one of the most



"Which can I Spare?"

It was, perchance, the not usual sight of a little coffin, born along the crowded street, which put this startling question to the mother's heart, and, it pained her to see the busy throng, roughly jestle, or pass thoughtlessly by the tiny casket, destined for some mother's darling.

Or, a line in the morning's paper, has told her, that a little child, happy, only a few days, or hours ago, in the enjoyment of health, amid the endearments of a home, made bright by its joyous presence, has "died," and her heart gave a great throb of terror, at the mere picture, framed in her imagination, of "what might have been."

Dare she hope that the pitiless angel will always pass her treasures by, when too, he seeks the fairest for his own?

Through the busy day, the dread question has been evaded, or silenced, but, when she presses good-night kisses on the lips of the dear unconscious sleepers, it clamors in her heart, and, with tearful eyes, she asks again—"Which can I spare?"

She cannot pause beside the crib, where "baby" sleeps, for the little life, but just begun, seems held, by a tenuous so frail, that she hastens on, lest, with these words upon her lips, her shadow, even, fall upon the little sleeper's.

She stops beside Willie's bed, or Charley's. He is a sturdy fellow, full of life and vigor, one, who has yet to be convinced of the practical truth of the fundamental law, that two bodies—his ball, and the front window panes, for instance—cannot occupy the same space at the same time. He is rough, too, and delights in noisy pastimes, yet no experienced nurse could tread more lightly than he, when "mother's head aches."

He is her pride, her eldest born, yet he never seemed half so dear, as, at this moment, and, with the dread question still unanswered, she passes on.

The next sleeper has sorely tried her patience to-day, but, as the mother smooths the tangled curls, from the brow of papa's "pretty renegade," she is not sure, but this is a dearer one, still. Laughter-loving, provoking Kate!

She, from her very waywardness, most needs a mother's loving forbearance. Even at this moment, the long lashes tremble, and, down the rounded cheek, there steals a tear. Is this unwonted visitor, the token of a summer grief, the offspring of a dream, or, does it forshadow a sad, perhaps an erring future?

"God forbid!" the mother ejaculates, and she resolves to be more careful still, more prayerful, in the training of this, her brilliant and impulsive child.

Beside her sister, her delicate fairness in contrast with Kate's rosy beauty, lies Mary, faithful, patient and loving, counterpart of that Mary, who sat at the feet of the Great Teacher. Is not she dearer still than any?

She may be blessed with a plentitude of this world's goods, or, her lot may be a hard one, her love may be centered on the petted and only one, or, it may be shared among a noisy troop of boys and girls, this question can find no answer, in "mother's" heart.

She shades the light, with careful hand, lest its rays fall on them too roughly, and, with a prayer for her darlings, "for earth, and for heaven," she leaves them to their slumbers.

During "the tour of inspection," as papa terms her nightly visit, he has, doubtless, consoled himself, with the much abused, but pacific cigar. He may note the shadow which still rests on her face, when she returns, and inquires the cause, but he would not understand, and might laugh at, or chide her "fancies," so, with true womanly inconsistency she replies, "nothing."

But, as she turns to the sewing basket which, filled with mementoes of all "the children," is waiting her deft fingers, she breathes a sigh of relief, realizing thankfully, that the choice can never rest with her, and she murmurs tenderly the burden of the question which has so vexed her loving heart. "Which, ah!—which can I spare?"

THE Newspaper, as a medium of communication; stands first among all the agencies now known.

Love and its Counterfeit.

Loving to be admired by a man, loving to be petted by him, and loving to be caressed by him, and loving to be praised by him, is not loving a man. All these may be when a woman has no power of loving at all—they may all be simply because she loves herself, and loves to be flattered, praised, caressed, coaxed, as a cat likes to be coaxed and stroked, and fed with cream, and have a warm corner.

But all this is not love. It may exist, to be sure, where there is love; it generally does. But it may also exist where there is no love. Love, is *self-sacrifice*; it is a life out of self and in another. Its very essence is the preferring of the comfort, the ease, the wishes of another to one's own, for the love we bear them. Love is not a sheet of blotting-paper or a sponge, sucking in everything to itself; it is an out-springing fountain, giving from itself. Love's motto has been dropped in this world as a chance gem of great price by the loveliest, the fairest the purest, the strongest of lovers that ever trod this mortal earth, of whom it is recorded that He said: "It is far more blessed to give than to receive." Now, in love, there are ten receivers to one giver. There are ten persons in the world who like to be loved and love, where there is one who knows how to love. That, O my dear ladies, is a nobler attainment than all your French and music and dancing. You may lose the very power of it by smothering it under a load of early self-indulgence. By living just as you are all wanting to live—living to be petted, to be flattered, to be admired, to be praised, to have your own way, and to do only that which is easy and agreeable—you may lose the power of self-sacrifice; you may lose the power of loving nobly and worthily, and become a mere sheet of blotting-paper all your life.—Mrs. Stowe.

Girls and Good Housekeeping.

Mary Moore, in the *Young Folks' Rural* says: Mothers frequently make a mistake in the management of their children. Overburdened with labor, and needing relief, they are yet so nice and particular, so jealously tenacious, perhaps, of the domestic sceptre, that they often refuse to delegate even a minor household to their daughters, forgetting that children should be early taught to make themselves useful, and to assist their parents every way in their power. A positive injury is done to the girls by this deprivation of all share in the government of the house, for it is evident that they cannot be too well instructed in anything which will effect the comfort of a family. Whatever position in life they may hereafter occupy, they need a thorough practical knowledge of household duties. Circumstances may eventually lift them above the necessity of performing much domestic work, but on this account they need no less knowledge, if it is not desired, that they shall be expensive burdens to their husbands.

Girls are not apt to allow to housework its due importance; but such as have experienced the thousand and one after-torments that spring from an ignorance of it, can estimate it at its true value. If they show an inclination to penetrate the mysteries of the kitchen, indulge them by all means. Never mind if the assistance they render is slight, and the trouble they cause more than counter-balances; let them cook, wash, iron, etc. They will soon learn, if it is contrived that the teaching shall be pleasant. We have in our mind's eye a little chit of a child, nine years old, who makes a loaf of bread—and made it well, too—every week during the winter. Her mother was kind and patient, and she quickly divined the proper quantities of yeast, salt and flour. If she feels inclined to try her hand at the higher grades of the culinary art—pastry-making, for instance, no objection is made. Indeed, she is quite a little housekeeper, carrying a big bunch of keys at her girdle, and often getting out what is necessary for the table.

Where there are several daughters, the care of the housekeeping should be given to each in turn. This seems to give us an excellent arrangement, and will certainly prove the most valuable part of their education. Girls with what are called high notions, will do well to reflect that the drudgery of the kitchen is by no means incompatible with the highest degree of refinement and mental culture. Some of the most socially elegant women we have ever known, have been adepts in the arts of bread-and-pie-making; nay, it is not long since that we saw a talented and highly educated lady don a pair of gloves, go down on her knees, and black-lead a stove, just to show Bridget how 'tis done. Re-

member, girls, that home constitutes the very essence of a man's idea of happiness; and if you do not fit yourselves to make the homes of your future husbands bright, cheerful, orderly and a refuge from all the world beside, how can you hope to be happy yourselves, or to make them happy?

Economy in cooking has a great deal to do with making life easy. There is a lasting charm in a good housekeeper; there is a profound lesson in her attention to the little things of the kitchen. There is nothing so beautiful as a useful life. For my part, I think no girl should stand at the altar, who has not first stood at the wash-tub.

A MOTHER'S LOVE.—One of the most touching incidents of the late Westfield disaster is thus related. Henry Robert's jumped into a barge which he found near the pier and put out in it to save the unfortunate who were struggling in the water. In his first trip he rescued seven women and landed them safely. Rowing out again he saw a woman who had been meanwhile supporting herself by a large piece of flooring upon which she had contrived to place her two children. She was quite self-possessed, and when he attempted to lift her into his boat, demanded that he should take the children first. He told her that they were safe; and urged her to take hold of the inside of the boat; but she vehemently refused to do so until he had lifted the children into it. She did not reason that the brave rescuer knew more about boats and water than she did, and could lift her children from the piece of flooring as well after as before herself. The logic of a mother's heart told her to make assurance doubly sure for her offspring before caring for herself.

To Young Farmers.

Remember you are the architects of your own fortunes. Rely upon your own strength of the body and soul, for you are the bone and sinew of these United States. Self reliance, faith, honesty and industry, are the watchwords. Don't put too much dependence on your *luck* if you wish to be much. *Pluck* is what has made this happy land such wise men to rule it.

Don't take too much advice; but keep at the helm and steer your own ship, and remember that the great art of commanding is to do your share of the work. Don't practice too much humility or be too bigoted either. Put potatoes in a cart over a rough road and the small ones will go to the bottom; it is just the same with mankind. Don't be penurious or prodigal.

Think well of yourself, if you wish others to think well of you.

Pay as you go, is the motto that has made so many men. A young man idle will make an old man needy. Civility costs nothing, and buys everything. Energy and *invincible* determination, with a right motive, are the levers that move the world.

Study mankind as well as books; help yourself; don't deceive; don't tattle. Be in earnest; be self reliant; be just, then generous. Read agricultural books and papers, they may have some faults; but you will learn a great deal of good from them. Love your country and obey the laws. Do what your conscience tells you to be a duty and leave the consequence with your God. If you don't like my advice don't say anything against the *RURAL PRESS*.

FAMILY RECORD.—We have received a lithographic emblematic memorial, with places for family photographs, etc., designed by Miss Allie Wylie. It contains in the center, the Lord's Prayer in fanciful lettering, and over it two places for the photographs of the heads of a family. Miss Wylie is only eighteen years of age and this design executed by her with a steel pen is a very creditable production. It is for sale by H. L. Norton & Co., 540 Clay st.

GLASS CHIGNONS.—It is said that chignons, plaits and curls are now made of spun glass, which, for cleanliness and other reasons, are preferable to human hair, goat's hair or jute—the materials that have hitherto been used for such purposes.

In an old farm-house of Duxbury, Mass., now standing, eleven daughters were born to the former inmates. All the girls were married in the room in which they were born.

Young Folks' Column.

A Chat with the Little Folks.

Children universally like story-telling; and this is a liking, too, which generally clings to a person till well into the decline of life. With very little children the simplest stories are the ones best liked—and they will often bear repeating a great many times;—in fact they never tire of them till their expanding intellects call for those of a higher grade—more suited to the enlarged scope of their growing minds. Stories also present the best medium for impressing valuable truths upon the minds of the young. We have set aside this column for the special benefit of our young friends, when we shall endeavor, as heretofore, to amuse, interest and instruct the younger members of the thousands of families into which the *RURAL* finds its way. We have here a little story which the youngest, who can read, may understand, and from it learn a lesson, the practice of which cannot fail to make them happier and better. Here it is:—

The Little Loaf.

In a time of famine a rich man sent for the poorest children in the town, and said to them:

"There is a basket full of bread; you may each come every day and take a loaf until it pleases God to send better times."

The children attacked the basket, and disputed as to which should have the largest loaf, and then went away without once thanking their benefactor.

Only Frances, a very poor but cleanly girl, modestly remained behind, and had the smallest loaf which was left in the basket. She gratefully returned thanks and went home quietly. One day the children behaved very badly indeed, and poor Frances received a loaf very much smaller than the rest; but, when she took it home, and her mother cut it open, a number of pieces of silver fell on the floor.

The poor woman was astonished, and said: "Go and return this money immediately; it must have been put in the bread by mistake."

Frances went directly with it to the gentleman, who said:—

"My dear child, it was no mistake. I had the money put into the loaf to reward you. Remain always as peaceable and contented. Those who are satisfied with a little always bring blessings upon themselves and family, and will pass happily through the world. Do not thank me, but thank God, who put into your heart the treasure of a contented and grateful spirit, and who has given me the will and opportunity to be useful to those who are in need of assistance."

"It Got A-Going."

One Fourth-of-July morning a gentleman driving along the road, chanced to be passing near a cottage just as a little boy fired off his little cannon, which, however, made noise enough to cause the horse to shy and nearly upset the carriage.

"You should not fire your cannon so near the road," said the gentleman, after he had quieted his horse.

"I didn't mean to," said the little boy; "but it got a-going before I saw the horse, and then I couldn't stop it."

There is a thought suggested by this answer, which every young and every grownup would do well to consider—and which would do us all good if we would only apply it to our actions:—That little boy's cannon was *just like his habits—just like everybody's habits*. Habits, like the cannon are not easy to stop when once they get started. They are pretty sure to get going until, if they are bad habits, they do mischief, in spite of all we can do to stop them. If you get a habit of meddling dishonestly with what don't belong to you, it is apt to go on until it does some terrible mischief. If you get into the habit of being idle, and wasting your time and opportunities, be assured it will not stop and change to a good habit just when you see how bad it is, and wish to get out of it.

Look out, then, for the beginning of a bad habit. Remember they are things that, like the cannon, we can't easily stop when we once set them a-going.

A SCHOOLBOY, having very good-naturedly helped another in a difficult lesson, was angrily questioned by the teacher: "Why do you work his lesson?" "To lessen his work," replied the youngster.

DOMESTIC ECONOMY.

The Breakfast Table.

A family which has to hurry through breakfast misses a great deal of comfort. If one has to be at business at precisely such a moment, better rise early enough so as to have a leisurely breakfast hour. A cup of coffee is the foundation of a good breakfast—muddy coffee is the misery of a breakfast. The best way to make coffee is to put the coffee into a flannel bag suspended over the top of the coffee pot, and turn boiling water through it. Never let coffee boil except for a moment, as it comes to a boil. A little egg mixed with the coffee before it is put to boil is the best thing to make it clear.

A good beefsteak is a most excellent item in the breakfast bill of fare, if it be broiled. Fried, it is an abomination.

Hot buckwheat cakes or waffles with maple syrup are the felicity of the breakfast hour.

Fried potatoes, if properly served, are a great luxury. The French style of cooking potatoes is the best. Slice potatoes very thinly and wash them. Then drain and wipe and quickly drop them into hot fat. When done turn them into a colander, sprinkle salt on them and serve hot. If you wish them light or swelled, leave them in the colander only about half a minute, then put them back in the fat. If the fat is very hot, when dropped into it the second time, they will swell.

Omelets and broiled ham make a nice breakfast.

Hammered biscuit are a nice special dish for breakfast—very popular in the South. A lady gives the following receipt for making them:—With a quart of flour rub thoroughly a heaped tablespoonful of lard, add cold water or sweet milk enough to make a very stiff, dry dough; work and beat it an hour and a half. Some people say give three hundred blows with a mallet. When it blisters or pops it is ready for the oven. Bake carefully until biscuits are a light brown.

On this question of eating, Dr. W. Hall says that it is not wise to eat by rules made in the chemical laboratory, or in the study of the philosopher. Eat what you feel like—that is, partake in moderation of what is most palatable to you; but if in rare cases it is found that what you are most fond of is followed by disagreeable results, gracefully yield to nature, and avoid it for a while at least.—*Ec.*

Hints for Housekeepers.

To drive biting bugs, pass through the room with a hot shovel on which some brown sugar has previously been placed.

For fruit stains on napkins, table-cloths, etc., pour hot water on the spots—rub in hartshorn or oxalic acid dissolved in hot water.

Never rub soap on flannel. Make a suds by dissolving the soap in warm water. Rinse in warm water; very cold or hot water will shrink flannel. Shake them out several minutes before hanging to dry. Blankets can be washed in the same way.

A bit of glue dissolved in skim milk will restore crapes.

Ribbons of every kind should be washed in cold suds and not rinsed.

If your flat irons are rough, rub them with fine salt and it will make them smooth.

A bit of soap rubbed on the hinges of doors will prevent their creaking.

Scotch snuff put in holes where crickets come out will destroy them.

Strong lye put in water will make it as soft as rain water.

Half a cranberry, it is said, bound on a corn, will soon kill it.

If you want to keep "posted" in matters pertaining to household duties generally, read this page of the RURAL every week.

HOW TO MAKE COMMON HARD SOAP.—Put in an iron kettle five pounds unslacked lime, five pounds soda, and three gallons of soft water; let it soak over night; in the morning pour off the water, then add three and a half pounds of grease, boil till thick, turn into a pan until cool, and then cut in bars.

CLEANING TINWARE.—An experienced housekeeper says the best thing for cleaning tinware is common soda. She gives the following directions: Dampen a cloth and dip in soda and rub the ware briskly, after which wipe dry. Any blackened ware can be made to look as well as new.

To Preserve Citrons.

Citrons, well prepared, constitute excellent sauce. Pare off the outer skin of citrons, and cut them into quarters. Take out the middle. You may divide each quarter into several pieces. Lay them four or five hours in salt and water. Take them out, and then soak them in spring or pump water (changing it frequently) till all the saltiness is extracted, and till the last water tastes perfectly fresh. Boil a small lump of alum, and scald them in the alum water. It must be very weak, or it will communicate a very unpleasant taste to the citrons; a lump the size of a hickory nut will suffice for six pounds. Afterwards simmer them two hours with layers of green vine leaves. Then make a syrup, with half a pint of water to each pound of loaf sugar; boil and skim it well. When it is quite clear, put in the citrons, and boil them slowly, till they are so soft that a straw will pierce through them without breaking. Afterwards put them into a large dish, and set them in the sun to harden.

Prepare some lemons, by paring off the yellow rind very thin, and cutting it into slips of uniform size and shape. Lay the lemon rind in scalding water, to extract the bitterness. Then take the pared lemons, cut them into quarters, measure a half pint of water to each lemon, and boil them to a mash. Strain the boiled lemon through a sieve, and to each pint of liquid allow a pound of the best double refined loaf-sugar for the second syrup. Melt the sugar in the liquid, and stir into it gradually some beaten white of eggs; allowing one white to four pounds of sugar. Then set it over the fire; put the lemon peel into the syrup, and let it boil in it until quite soft.

Put the citrons cold, into a glass jar, and pour the hot syrup over them. Let the lemon remain with the citrons, as it will improve their flavor.

If you wish the citrons candied, boil down the second syrup to candy light (that is, till it hangs in strings from the spoon), and pour it over the citrons. Keep them well covered.

You may, if you choose, after you take the citrons from the alum water, give them a boil in very weak ginger tea, made of the roots of green ginger if you can procure it; if not, of race ginger. Powdered ginger will not do at all. This ginger tea will completely eradicate any remaining taste of the salt or the alum. Afterwards cover the sides and bottom of the pan with vine leaves, put a layer of leaves between each layer of citron, and cover the top with leaves. Simmer the citrons in this two hours to green them.—*Western Rural.*

Examine Your Teapots.

A caution has lately been largely copied in the domestic columns of newspapers to the effect that cracked dishes, after being long used for holding gravies and fat of any kind, become rancid and unwholesome. And later comes another, with good medical authority to back it, against using tin vessels—more especially teapots—which have become rusted or blackened inside. The acid contained in the tea, combines with the iron of the exposed portions of the vessel, and forms a chemical compound, not unlike ink. It corrodes and darkens the teeth, and cannot be offensive to the stomach. I have seen the discoloration, both of natural and artificial teeth prove so obstinate, from this cause, as to require several scourings with soap and ashes, with a stiff brush, to remove it.

When housekeepers hear any of the family remarking, "This tea tastes like ink!" it is time to examine—possibly to throw away—the teapot.

The most palatable and wholesome tea is made by steeping in a bright tin or porcelain cup, then pouring into a freshly scalded earthen teapot. Thus treated it will never acquire the astringent quality so deleterious to the teeth and to health.—*Ohio Farmer.*

FILL YOUR LAMPS IN THE MORNING.—Scarcely a week passes but we read accounts of frightful accidents from kerosene lamps exploding and killing, or scarring for life, men, women and children. A simple knowledge of the inflammable nature of the liquid may put a stop to nearly all the accidents. As the oil burns down in the lamp, inflammable gas gathers over the surface. When the oil is nearly consumed, a slight jar will inflame the gas, and explosion follows. If the lamp is not allowed to burn over half way down, accidents are impossible.

Domestic Receipts.

BROWN SOUP.—One pound of turnips, one pound of carrots, half a pound and six ounces of onions, one and a half pints of peas, four ounces of butter, and half a pound of bread. Cut the vegetables into small pieces; put them in a pan with the butter; cover the pan, and let them stew over the fire till brown, occasionally stirring them; put in the peas, with the water in which they were boiled; add sufficient boiling water to make three quarts altogether; next add the bread, which should be browned or toasted before the fire, but not burnt; season, and let the soup boil gently for three or four hours; rub it through a coarse sieve; return it into the pan; let it boil, and it will be ready to serve. If dried peas are used, they should be steeped for twenty-four hours in soft water, and boiled for two hours.

TO MAKE PICKLES HARD USE ALUM AS FOLLOWS:—To a gallon of vinegar add one ounce of powdered alum. If the vinegar is put into bottles tightly corked and set in a kettle of cold water, with hay or straw between them to keep the bottles from knocking together, and allowed to remain over the fire until the water boils, then removed and kept in the kettle until nearly cool, the vinegar will keep perfectly clear when used for pickles, but it should be added to them cold. Shreds of horseradish root will prevent all pickles from moulding.

Mechanical Hints.

HOW TO CLEAN CHROMOS.—In answer to numerous inquiries, *Prang's Chromo* says: "When you clean them, use a soft brush, or wipe them with soft chamois skin, (a drop of oil may restore clearness,) or with a fine linen rag very slightly dampened. Always tenderly. Next, whenever the original varnish coating is dulled, bruised or rubbed, revarnish it with thin mastic varnish. Chromos, like oil paintings, should not be hung in a dark room, but in one with diffused light, and never exposed to the direct rays of the sun. The chromos, after water colors, keep and display better when plated under glass, as they lack the protecting cover of the varnish. The larger chromos, after oil paintings, display as a general rule, best when framed like original paintings. It is not necessary to put any of these under glasses; it is a matter of taste—preserving them, at the same time, from dust and rough handling.

PLATING AND GILDING WITHOUT A BATTERY.—A very useful solution of silver or gold for plating without the aid of a battery may be made as follows: Take one ounce of silver, dissolved in one quart of rain water. When thoroughly dissolved, throw in a few crystals of hyposulphite of soda, which will at first form a brown precipitate, but which eventually becomes re-distilled if sufficient hyposulphite has been employed. A slight excess of this salt must, however, be added. The solution thus formed may be used for coating small articles of steel, brass, or German silver, by simply dipping a sponge in the solution and rubbing it over the surface of the article to be coated. I have succeeded in coating steel very satisfactorily by this means, and have found the silver so firmly attached to the steel, (when the solution has been carefully made) that it has been removed with considerable difficulty. A solution of gold may be made in the same way, and applied as described. A concentrated solution of either gold or silver thus made, may be used for coating parts of articles which have stripped or blistered, by applying it with a camel-hair pencil to the part, and touching the spot at the same time with a thin clean strip of zinc.

TO MAKE ARTIFICIAL MARBLE FOR PAPER WEIGHTS OR OTHER FANCY ARTICLES.—Soak plaster of Paris in a solution of alum; bake it in an oven, and then grind it to a powder. In using, mix it with water, and to produce the clouds and veins, stir in any dry color you wish; this will become very hard, and is susceptible of a very high polish.

INVISIBLE CEMENT.—Isinglass boiled in spirits of wine will produce a fine, transparent cement, which will unite broken glass so as to render the fracture almost imperceptible and perfectly secure.

TO LOOSEN SCREWS AND BOLTS.—When you find screws and nuts have become fast from rust, pour on them a little kerosene or coal oil, and wait a few moments until they become soaked with the liquid. When this is done they can be easily started and the bolt saved.

LIFE THOUGHTS.

THERE is no fool like the man who accounts himself wise.

MISERY dwells with the miser, but he follows the footsteps of the spendthrift.

THOUGH the sky rains chickens, they must be roasted before they are good for the table.

A FRIENDSHIP that makes the least noise is often the most useful; for which reason I should prefer a prudent friend to a zealous one.

PRIDE may sometimes be a useful spring-board to the aspiring soul, but it is much more frequently a destructive stumbling block.

ATOMS.—A mountain is made up of atoms, and friendship of little matters, and, if atoms hold not together, the mountain is crumbled into dust.

SINCERITY is speaking as we think, believing as we pretend, acting as we profess, performing what we promise, and being what we pretend to be.

LOVE.—With love, the heart becomes a fair and fertile garden, with sunshine and warm hues; and exhaling sweet odors; but without it, it is a bleak desert covered with ashes.

A Secret.

There are a great many persons who can not tell why it is they have so much difficulty in getting and keeping positions in business. If they are in business, they easily drop out; if they are out, they find it hard to get in. If they have a position to day they may lose it to-morrow; if they lose their place, they perhaps have to wait weeks and months before they secure another. They do not comprehend that while others are busy they should be unwillingly idle; that while others have as much as they can do, they have nothing to do.

There is a little secret, that will go far to explain the difficulty; there is a constant unsupplied demand, in all departments of labor, for skill, and it is those who possess this property that easily secure and retain situations, while those who possess it not, are forced to be idle. There is all the difference in the world between an expert clerk and a clumsy one—between a skillful salesman and an unskillful one—between a dexterous mechanic or laborer and an awkward one—between even a cheerful, and tidy house servant, and a careless, slovenly one. The value of skill applies to all vocations, and all departments of service. Whether a piece of work is well done or ill done may be a question of vast importance to the employer; it may be worth twice as much to have it well done, as to have it badly done.

A good workman may be worth twice as much as a poor one; an expert reliable clerk, who attends to his employer's business, as well as the employer himself would, may be cheap at two hundred dollars a month, while a careless clerk, who is not concerned how he does his work, so he gets through with it and draws his pay, may be dear at half the sum. A young man, with a good education, twenty-five years old, and of some experience, may imagine that his services are worth as much as another man of the same education, age, and experience; but he may be seriously mistaken in his estimate. His value is to be submitted to an employer for an estimate, and the qualities skill, tact, diligence, fidelity, and trustiness, are all to be considered in determining it.

If one man possesses the attributes in a high degree, and another lacks them, the former is sure of constant employment at liberal compensation, while the latter may be a large portion of his time out of employment, or able to command only an inferior salary. Labor is sometimes a glut in the market, but skill and efficiency are always in demand; if, therefore, a man who has always services to sell, would get a good price, and constant employment for them, let him, by diligent study and careful application, make himself master of his calling, whatever it be.

STICK TO ONE THING.—Every young man, after he has chosen his vocation, should stick to it. Don't leave it because hard blows are to be struck or disagreeable work to be performed. Those who have worked their way up to wealth and usefulness do not belong to the shiftless and unstable class, but may be reckoned among such as took off their coats, rolled up their sleeves, conquered their prejudices against labor, and manfully bore the heat and burden of the day.

Close of the Mechanics' Institute Exhibition.

Award of Premiums.

The Eighth Exhibition of the Mechanics' Institute closed on Saturday last, and in a few weeks the old structure on Union Square will disappear; but the recollection of the scenes with which it has been connected will long linger in the memory of both old and young.

The exhibition just closed has been an eminently successful one, both in the display itself, and as a financial enterprise. The closing ceremonies were preceded by an excellent and appropriate speech from the President, Mr. Hallidie, in which he remarked that it had been opened for 29 days, and that it would probably be many years ere another would be held. By an actual count, 21,756 persons had visited the Fair in a single day. The number of entries had been 1,895; the total receipts \$60,000—expenses, up to that time, \$26,000; which would leave a balance toward paying off the mortgage on the Institute, Library building and increasing the library itself, of \$34,000, to which amount would be added about \$12,000 more by the sale of the building, fixtures, etc. At the conclusion of the address, the President announced the following awards:—

Awards of Gold Medals.

1. California Silk Culture Company, raw and manufactured silk.
2. Mission Candle Works, California made candles.
3. Alvarado Beet Sugar Company, sugars from the beet.
4. Mission and Pacific Woolen Mills, best display of blankets and knit goods.
5. Jonathan Kittredge, California made safes.
6. Vanderslice & Co., California made silverware.
7. Jacob Zech, California made pianos.
8. Pacific Pneumatic Gas Company, gas machine.
9. B. N. Bugby, exhibit of California wines.
10. J. H. Culver, machine for cutting twist mouldings, California invention and manufacture.
11. Pacific Stone Company, artificial manufactured stone.
12. Pacific Wood Preserving Company, process of preserving wood.
13. William Betts & Co., California made carriage springs.
14. S. N. Brooks, painting.
15. A. S. Hallidie, wire ropeway.
16. A special gold premium for display of statuary, to P. Mezzara.

Silver Medals.

1. E. W. Mitchell & Co., California-made augers.
2. W. K. Deitrick, hams, bacon and lard.
3. San Francisco Gas Company, manufactured ammonia.
4. James Hatch, for scroll work.
5. San Francisco Last Company, California-made lasts.
6. Craig & Savage, burial caskets.
7. Electrical Construction Company, electrical telegraphic apparatus of California manufacture.
8. George D. Morse, colored photographs.
9. Carmen Island Salt Company, salt.
10. Pacific Pottery Company, pottery ware.
11. Pacific Glass Works, green glass ware.
12. Oakland Cotton Mills, burlaps and twines.
13. Eberhardt & Lachman, wines.
14. J. M. Eckfeldt, wire goods.
15. J. P. Goodwin & Co., furniture.
16. Charles O. Farcoit, milling lathe.
17. E. K. Howes & Co., wooden ware.
18. San Francisco Glass Company, white glass ware.
19. Main & Winchester, harness and saddles.
20. Haynes & Lawton, plated ware.
21. C. E. Watkins, photographic views.
22. Kimball & Co. general display of carriages and buggies.
23. Pollard & Carvill, for clarences or hacks.
24. California Powder Company, rifle and sporting powder.
25. Giant Powder Company, for giant blast iug powder.
26. John Roach, mathematical instruments.
27. W. D. Hooker, hand pumps.
28. Buckingham & Hecht, boots and shoes, California manufacture.
29. Nelson & Doble, for display of steel tools, their manufacture.
30. Howell & Low, "Queen" Harvester.
31. D. Samuels, glove manufacturing.
32. Stow Pavement Company, wood pavement.
33. Will & Finck, cutlery, best special display.
34. M. Price, cutlery, best general display.
35. H. G. Hanks, best display of minerals and fossils.
36. To Pioneer Ramie Plant, J. S. Fluck.
37. J. F. Snow, dyeing, cleansing and renovating gloves, etc.
38. T. C. Jameson, bas reliefs.
39. E. McGrath, marble mantels.
40. Kullman, Wagner & Co., leather display.
41. N. Seibert, Eureka Lubricator, a California invention.

42. Pacific Saw Manufacturing Company, best exhibition of circular saws.
43. Travis & Wagner, burr mill-stones.
44. Hill & Knaugh, gang plows.
45. J. G. Denny, marine painting.
46. Wm. L. Marple, landscape painting.
47. Misses Crane & Curtis, designing and engraving on wood.
48. To Oregon Woolen Mills, special silver medal for cassimeres.
49. Deacon & Co., for steam engine, special silver medal.

Report on Cash Premiums.

President and Board of Managers—Gentlemen: The Committee on Cash Premiums beg leave to submit the following report:

W. Gov. Morris and H. C. Bennett—For essay on manufacturing interests of California, award of cash premium of \$400.

D. R. Smith—For essay on transporting ores over difficult roads, awarded cash premium of \$100.

Solomon W. Jewett—for essay on cotton, awarded premium of \$100.

Dr. McGowan—For essay on insect wax, grass cloth, artificial manufacture of pearls, feather work and vegetable tallow—all of China, awarded cash premium of \$200.

Your Committee reject the essay on overflowed and tide lands, because it is a descriptive geography of the tide lands instead of the best method of reclaiming said lands; hence not coming under the class for which it was intended.

The report on tides was rejected because it was an essay on the cause of tides, instead of an essay on the tides of San Francisco Bay, and the results of building piers and wharves.

No other essays were presented for our consideration, notwithstanding the valuable awards offered.

Your Committee awarded a cash premium to Dr. McGowan, for five essays on various products of China, for two reasons: one the merit of the production, and the other to encourage contributions from China and Japan in the future.

IRVING M. SCOTT, Secretary.
HENRY L. DAVIS.
A. S. HALLIDIE.

We are informed that some supplemental awards will be made of medals. The awards for diplomas will be announced too late for publication in this issue.

Varieties of Fruit for California.

E. J. Hooper, a veteran agricultural editor, contributes to the California Horticulturist, for August, the following list of fruits found, by practical cultivators and salesmen in this State, best suited to its soil and climate, and most profitable for the cultivator, and, to a considerable extent, suited to the taste of the consumers:

APPLES—Summer Varieties.—Red Astrachan, Red June, Summer Bellflower or Yellow Bellflower, Early Strawberry, Summer Rose, Early Harvest, (Prince's) and Keswick Codling.

Full Varieties.—Gravenstein, Porter, Siberian Crab, Fall Pippin, and Esopus Spitzenberg.

Winter Varieties.—Baldwin, Roxbury Russet, White Winter Pearmain, Yellow Newtown Pippin, Newtown Spitzenberg, Swaar, Winesap, Rhode Island Greening, Jonathan, Blue Pearmain, Green Newtown Pippin, Nickajack, Mammoth Pippin, Fallwater, Orley Pippin, Alexander, King's Apple, Smith's Cider, and Rome Beauty.

PEARS—Summer Varieties.—Madeline, Dearborn's Seedling, Bartlett, Bloodgood, Doyenne d'Ete and Flemish Beauty.

Full Varieties.—Duchess d'Angouleme, White Doyenne or Virgalien, Seckle, Buerre Diel, Buerre Hardy, Washington, Buerre Gifford, Buerre d'Anjou, Vicar of Wakefield, Dix, and Rostiezer.

Winter Varieties.—Winter Nellis, Easter Buerre and Glout Morceau.

QUINCES.—Orange and Apple.

CHERRIES.—Black Eagle, Black Tartarian, Governor Wood, Holland Bigarreau, Napoleon Bigarreau, Knight's Early Black, Royal Anne, May Duke, Late Duke, Black Hawk, Yellow Spanish and Elton.

PLUMS.—Washington, Coe's Late Red, Coe's Golden Drop, Damson, Ickworth's Imperatrice, Duane's Purple, Green Gage, General Grant, Hungariau Prune, German Prune, Early Orleans, Lombard and Jefferson.

APRICOTS.—Moorpark, Early Golden, Large Early and Duboise Early Golden.

PEACHES.—Early Tillotson, Early York, Early Crawford, Hale's Early, Large Early York, Strawberry, Royal George, Melecaton Red Cheek, Mammoth Melecaton, Smock Free, Old Mixon Free, Morris White, Heath Free, Heath Cling, and Old Mixon Cling.

NECTARINES.—Large White, Large Red and White, Orange and Golden.

GRAPES FOR TABLE.—Black Varieties.—Black Hamburg, Black Prince, and Black Morocco.

White or Amber-colored Varieties.—White Muscat of Alexandria, White Sweetwater, Chaselas de Fontainebleau, Cannon Hall Muscat, White Malvoisie.

Rose-colored Varieties.—Flame-colored Tokay and Rose of Peru.

Hardy Variety, suited to elevated mountain regions.—Isabella.

For Wine.—Riesling, Mission, Zinfandel, etc. STRAWBERRIES.—Longworth's Prolific, Triomphe de Gand, British Queen, Juconda, Wilson's Albany and Kentucky, very late.

RASPBERRIES.—Red Antwerp and Falstaff. BLACKBERRIES.—Lawton or New Rochelle, Kittatiny and Dorchester. CURRANTS.—Cherry, Red Dutch, White Dutch or White English and Black English.

Borax.

The richest borax deposits in the United States are to be found in Nevada. Among them are deposits belonging to one company which cover an area of 20,000 acres, at Columbus, Fish, and Toal Flats or Lakes, Esmeralda county, 140 miles south-east of the C. P. R. R. This is said by blacksmiths, who have tried it, to be superior to the best English borax. The crude mineral consists of borate of lime, and borate of soda, mixed with sand, mud, carbonate of soda, chloride of soda and magnesia. The supposition is that warm springs of boracic acid rise in these flats or lakes, and that the acid uniting with the lime of the country rock, or with the soda formed in the flats, forms the borates. At some points, a few feet below the surface, the water is quite hot. There are also borax deposits in Lake county, Cal., which yield a very good article. The annual consumption of this useful substance in the world, is estimated at 11,000 tons.

A HEN HATCHING AN EAGLE.—Mr. John D. Fries, of South Coventry township, Pa., is trying the experiment of raising an eagle hatched by a hen. The Pottstown Ledger gives the following account: About a month ago, while on Nyo's Hill, he saw a large bird fly up from a lonely place among the rocks. Proceeding to the spot, he discovered two eggs, of nearly the size and appearance of turkey eggs, which he picked up, brought home, and placed under a setting hen. About a week ago the eggs were hatched out, and Mr. Fries was astonished to find that they were eagles. The old hen must have been considerably surprised too, for she spluttered about and trampled upon one of her progeny and killed it. The other one will probably grow up and do well; but it would be rather a joke if this eagle would some day gather up the old hen that hatched it and fly away with her.

CROPS IN THE WESTERN STATES.—The wheat crop of this year in Kansas averages 20 bushels per acre. That of one county in Illinois, Jersey, is estimated at one million bushels. The crop of Iowa is better than was expected, and corn in that State is ahead of that of any other year. In Kansas corn is from nine to thirteen feet high, which causes the complacent inhabitants of that State to make frequent inquiry of strangers "how is that for high?" In Northern Indiana all the crops are in good condition. In fine, the whole west seems to be laughing with the harvesting, but probably the flourdealers will have a report about the weevil or the rust, or some other pest, on hand, when it becomes necessary to raise the price of flour.

RAPIDLY SETTLING.—The U. P. R. R. in addition to their through "Express," through "Mixed," and through "Freight" trains, have lately added a "Colony" accommodation, which leaves Omaha at 5.45 A. M., stopping at all stations, and arriving at Grand Island, 145 miles distant, at 4.30 A. M. Returning, leaves Grand Island at 5 A. M., arriving in Omaha at 3.40 P. M. This speaks in thunder tones for the settlement of the country. The rush of emigrants and colonists to settle along the line of this road this season has been enormous—far exceeding all others since the completion of the road. And well they may, as the lands for 200 miles west of Omaha are equal to any in like geographical position on the American continent. Yet it was only a few years since the "Red Man," in all his gentle ferocity and winning ways, disputed their possession inch by inch with the hardy pioneers, and the buffalo, antelope, and other game roamed over them in countless numbers. How wonderful the change—great is the "Iron Horse" and the "Union" is his prophet.—Croft's Trans-Continental Guide.

"Nino," from Stanislaus county, will appear next week.

THE SPIDER.—The value of this disagreeable insect, is well understood by dealers in quills and quill pens, as the spider preys on a most destructive moth which is attracted by the feathers of the goose.

Preventing Scale in Boilers.

The formation of scale in boilers is the source of very considerable expense in the way of increased consumption of fuel. Recipes without number have been given for its prevention, and the want of success attending the use of the most of them has created a prejudice in the minds of very many engineers against any new "anti-scale compound." Such a prejudice is perfectly natural, although not altogether logical.

The water used for generating steam contains ingredients in varying quantities for forming scale, which must be removed in one way or another. Blowing off frequently is a measure always to be recommended. But this is not enough in the generality of cases, and, as it gives the engineer considerable trouble, is too often neglected. The need of some material for the prevention or removal of scale is most urgent.

We notice at the Mechanics' Institute Fair an exhibit of a compound which ought to attract considerable notice. This is Rickard & Durden's Anti-Scale Compound. Without desiring to praise it above its merits, we may still say that the amplest proof has been given of its usefulness in England, where it has been thoroughly tested, and also in this city where it has been tried of late. Under these circumstances we feel justified in calling attention to it, and urging engineers to give it a trial at least. If the compound is powdered, before introduction into the boiler, it sometimes causes foaming, which it does not do when introduced in small pieces. This fact we state merely by way of caution and of urging its judicious use. A fair trial is all that can be asked for any new thing, and a fair trial of this compound ought to result, according to numerous testimonials, most advantageously to the user. That the material has merit enough to deserve such a trial, we feel confident.

What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—San Jose Ind. The first No. evinces marked editorial ability. . . . Fills up a vacancy that has been felt in our agricultural department. . . . With its publishers there is no such word as fail.—Mt. Messenger.

We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—Sonoma Dem.

It is a work which no farmer should be without.—Yreka Union.

An admirable specimen both as to execution and contents. . . . Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—Stockton Daily Ind.

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—Eucine Alameda.

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. . . . Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life.—Eucine.

They can't if they will, make it a creditable work. (We will that.) It opens well. . . . Excellent paper and type—and a first-class agricultural journal. . . . Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—Vallejo Recorder.

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—Arizona Miner.

We think the rural people of the Pacific Coast will have an organ second to none in the country.—Ukiah Statesman.

Just the kind needed on this coast, and merits an extended circulation.—Red Bluff Independent.

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, C. H. Strong and J. L. Hoone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation. . . . It is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—Eugenean.

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the Scientific Press to mining and mechanical arts, and have therefore started the Pacific Rural Press.

If the first number is to be taken as an earnest of what will follow, each week, we can advise any to all interested in agricultural pursuits, subscribe.—Vallejo Chronicle.

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—Eugene, S. F.

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that L. N. Home, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—Yolo Mail.

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—\$4 a year; or to a club of 10 or more, \$3. Sample copies sent on receipt of a postage stamp.—Alpine Miner.

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—Democrat, Downsville.

Industrial Fairs for 1871.

CALIFORNIA.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Sept. 14th.

FLOUR—The export demand is quiet; yet the market is still firm and prices have advanced. Sales reported embrace 10,000 bbls. Cal. extra, 4,000 Oregon extra and 4,000 Cal. superfine, mostly for export. We quote as follows:

Superfine, \$6.75@7.00; extra, in sacks, \$7.50@7.75. Standard Oregon brands, extra, may be quoted \$7.50@7.75.

WHEAT—There is still a good milling and some speculative demand, with but very little enquiry for export. Prices have advanced from 10 to 15c since our last report. We note sales of 600 sks good coast, \$2.65; 1,200 sks good milling, \$2.67½; 3,000 sks choice, \$2.52½ to \$2.75 per 100 lbs. Sales have aggregated about 50,000 sacks fair to choice at \$2.62@2.75, which is the range of the market at the close.

The Liverpool market was telegraphed on Wednesday, our latest date before going to press, at 12s 10d, an advance of 8d since our last reference.

Some further reference to the wheat market will be found in our editorial columns.

BARLEY—Has remained very steady during the past week. Sales have aggregated about 20,000 sacks at \$1.82@1.97½. At the close we quote at \$1.90@2.00. Choice brewing is held at \$2.10.

OATS—The demand continues light under more free receipts. Sales of 6,000 sacks are reported at \$1.82@1.95 from fair to choice, which is a fair quotation at the close.

CORN—The market has slightly declined. We quote at \$2.37½@2.45.

CORNMEAL—Is quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—New crop quotable at \$3.00.

RYE—In liberal supply at \$1.85@2.00.

STRAW—Quotable at \$8@9 by the cargo.

BRAN—Still continues at \$27.50.

MIDDLINGS—For feed are now selling at \$37.50 and \$40@45 for fine—market firm.

OIL CAKE MEAL—Is quotable at \$40 from the mill, and in good demand.

HAY—Sale of 13 tons fair volunteer Barley, \$19; 15 do good tame Oat, \$20. Choice Wheat is quotable at \$22 per ton. There has been a good demand during the past seven days, and prices at the close are firm at \$19@23 for fair to choice per ton.

HONEY—The supply is fair. We quote Los Angeles strained at 12½@14c; small lots of choice white, from San Diego, held at 30c per lb. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The receipts have been free and demand fair at 60@90c for Mission and Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.50@1.75.

HOPS—We quote new at 25@35c; crop of 1870, 10@12½.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9½c. Sales during the week 1,730 Cal. dry, and 1,926 salted.

WOOL—The market is duller than at any previous time this year. Shippers are not buying at all, and only one of the local mills is purchasing. The sales for the week barely reach 50,000 lbs., all by one house. The price for choice is from 1c to 1½c lower than last week, and quite nominal at that. Inferior descriptions are unsalable and stock very large. Indeed the supply of all kinds is heavier than for some time. We quote clean fall at 28@31c per lb.

TALLOW—A novel feature of the week has been the arrival of 80,000 lbs. Australian and 40,000 lbs. Chicago, imported on account of Mission Candle Works. The extremes may be quoted from 9½@10c.

SEEDS—Flax 5@3½c, Canary, 8c, Alfalfa, 16c, Mustard 4@5½c. Receipts of the latter are very light.

PROVISIONS—California Bacon 14@15c; Oregon, 15½@16; Chicago 14@14½c; Cal. Hams 14½@15; Oregon do, 14½@15c; California Sugar-cured Hams, 16@18c; Oregon do, 16@18c; Eastern do, 19@20c; California Smoked Beef, 13@14c.

BEANS—Are selling at the following rates: small White and Pea, 2@2½c; small Butter 2@2½c; large do, 2½@2¾c; Pink 1½c; Bayo, 2½@3c per lb.

ONIONS—Sale of 100 sks Silverskins at 75@80c per ctd.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@

8c; Pecan, 23@25c per lb., walnuts, 12@15c, Hickory, 12c; Brazil, 16.

FRUIT.

| | | |
|--------------------------------------|---------|---------|
| Tahitian Oranges..... | \$25 00 | \$30 00 |
| Limes, per 1,000..... | 10 00 | 15 00 |
| Australian Lemons, per 100..... | 5 00 | |
| Scilly do, per box..... | 10 00 | 14 00 |
| Bananas, per bunch..... | 1 50 | 3 00 |
| Cocoanuts, per 100..... | 8 00 | 10 00 |
| Apples..... | 30 00 | 1 25 |
| Pears, cooking..... | 50 00 | 60 |
| Bartlett do..... | 1 50 | 2 25 |
| Seckel do, per box..... | 1 00 | 2 00 |
| Peaches, per basket..... | 75 00 | 1 50 |
| Choice Mountain do, per lb..... | 5 00 | 8 |
| Quinces, per box..... | 1 00 | 1 50 |
| Raspberries, per lb..... | 12½ 00 | 15 |
| Strawberries, per lb..... | 7 00 | 9 |
| Plums, per lb..... | 3 00 | 4 |
| Prunes, per lb..... | 5 00 | 7 |
| Blackberries, per lb..... | 4 00 | 6 |
| Figs, per lb..... | 7 00 | 8 |
| Grapes, Sweetwater, per lb..... | 2 00 | 3 |
| Mission do, per lb..... | 1½ 00 | 2½ |
| Rose of Peru do, per lb..... | 2 00 | 4 |
| Black Hamburg, do, per lb..... | 2 00 | 4 |
| Muscad of Alexandria do, per lb..... | 3 00 | 6 |
| Flame Tokay do, per lb..... | 5 00 | 10 |
| Isabella do, per lb..... | 5 00 | 10 |

DRIED FRUIT.

| | | |
|------------------------|-------|----|
| Apples, per lb..... | 7 00 | 10 |
| Apricots, per lb..... | 10 00 | 11 |
| Plums, per lb..... | 6 00 | 8 |
| Pitted do, per lb..... | 20 00 | 22 |

VEGETABLES.

| | | |
|--------------------------------|-------|------|
| Cabbage, per lb..... | ½ 00 | 1½ |
| Garlic, per lb..... | 1½ 00 | |
| String Beans, per lb..... | 1 00 | 1½ |
| Summer Squash, per lb..... | 1 25 | 00 |
| Tomatoes, River, per box..... | 30 00 | 35 |
| Bay do, per box..... | 75 00 | |
| Cucumbers, per box..... | 1 00 | 1 25 |
| Green Corn, per doz..... | 12 00 | 20 |
| Watermelons, each..... | 4 00 | 9 |
| Cantaloupes, per doz..... | 25 00 | 1 20 |
| Lima Beans, per lb..... | 1½ 00 | 2 |
| Marrowfat Squash, per ton..... | | 8 00 |

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9½c per lb. Do 2d quality 7@8c per lb. Do 3d do 5@6c per lb.

VEAL—Extremes, 7@9c.

MUTTON—6½@7c per lb.

LAMB—May be quoted at 8c per lb.

PORK—Undressed is quotable at 5½@6c. dressed, 8½@9c.

POULTRY—Live Turkeys, 18@20c per lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$3.50@4.00; Ducks, \$5.00@5.60 per doz. Geese, \$1.00@1.12 per dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 37½@42c; California firkin butter, 27½@32½c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10@14c; Eastern, 12½@14½c.

EGGS—California fresh, 42½c. **LARD**—California Lard, 11-lb tins, 14½@14½c; Oregon in bbls, 14½c; Eastern do, 13@14½c. in bulk, and 13½@14c in tins.

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, \$14@14.50; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | | |
|---------------------------|--------------------------|------|
| Sugar, crhd, do 14½@15 | Hemp Seed, do 7 00 | 9 |
| Hawaiian, do 9 12 | Castor Beans, do 4 00 | 4½ |
| Coffee, Cos. R, do 15½ 16 | Castor Oil, gal. 1 75 | 2 00 |
| Rio, do 16 00 | Linseed Oil, gal. 1 05 | 1 10 |
| Tea, Japan, per lb. 50 00 | Broom Corn, per lb. 3 00 | 5 |
| Green, do 50 00 | Peas, do 2 00 | 30 |
| Rice, Haw'n, per lb. 8½ 9 | Peanuts, do 5 00 | 7 |
| China, do 6 00 | Corn Meal, cwt. 2 50 | 4 00 |
| Coal Oil, per gal. 50 00 | Onions, cwt. 1 50 | 6 50 |
| Candles, per lb. 15 00 | | |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, September 14.

SOLE LEATHER—Eastern shipments still keep the market firm and the demand good.

CITY TANNED LEATHER—26@29

Santa Cruz Leather—26@29

Country Leather—25@28

Leading French boots have declined slightly. California kips are higher and in demand.

| | | |
|---|---------|-------|
| Jodot, 11 to 19 Kil, per doz..... | \$60 00 | |
| Jodot, 20 to 29 Kil, per doz..... | 80 00 | 95 00 |
| Jodot, second choice, 11 to 15 Kil, per doz..... | 80 00 | 85 00 |
| Lemoine, 16 to 19 Kil, per doz..... | 80 00 | 85 00 |
| Levin, 12 and 13 Kil, per doz..... | 80 00 | 70 00 |
| Cornellian, 12 to 14 Kil, per doz..... | 65 00 | 70 00 |
| Ogerau Calif, per doz..... | 54 00 | |
| Mercier Calif, 16 Kil, per doz..... | 65 00 | |
| Robert Calif, 7 and 8 Kil..... | 35 00 | 40 00 |
| Common French Calf Skins, per doz..... | 35 00 | 75 00 |
| French Kips, per lb..... | 1 10 | 1 30 |
| California Kip, per doz..... | 60 00 | 75 00 |
| Eastern Wheel Stuffed Calf, per lb..... | 80 00 | 1 25 |
| Eastern French Stuffed Calf, per lb..... | 1 10 | 1 25 |
| Eastern Calf for Backs, per lb..... | 1 15 | 1 25 |
| Sheep Roans for Topping, all colors, per doz..... | 8 00 | 13 00 |
| Sheep Roans for Linings, per doz..... | 5 50 | 10 50 |
| California Russell Sheep Linings..... | 1 75 | 5 50 |
| Best Jodot Calf Boot Legs, per pair..... | 5 25 | |
| Good French Calf Boot Legs, per pair..... | 4 50 | 5 00 |
| French Calf Boot Legs, per pair..... | 4 00 | |
| Harness Leather, per lb..... | 30 00 | 37½ |
| Fair Bridle Leather, per doz..... | 48 00 | 72 00 |
| Skirting Leather, per lb..... | 34 00 | 37½ |
| Welt Leather, per doz..... | 30 00 | 50 00 |
| Buff Leather, per foot..... | 17 00 | 21 |
| Wax Side Leather, per foot..... | 18 00 | 20 |

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

San Francisco Retail Market Rates.

FRIDAY, September 15, 1871.

MISCELLANEOUS.

| | | |
|----------------------------|----|---------------------------|
| Butter, Cal. fr. do 45 00 | 55 | Wool Secks, new do 60 00 |
| Pickled, Cal. do 45 00 | 55 | Second-hand do 67½ 00 |
| do Oregon, do 45 00 | 55 | Wheat-sks, 22x36 12 00 |
| Honey, do 25 00 | 30 | Potato G'y Bage, 22 00 |
| Cheese, do 20 00 | 25 | Second-hand do 15 00 |
| Eggs, per doz. 45 00 | 50 | Deer Skins, h'n do 15 00 |
| Lard, per lb. 18 00 | 20 | Sheep eke, w'lon do 50 00 |
| Sugar, cr. 6½ lb. do 10 00 | 13 | Sheep sks, plain, 12½ 00 |
| do do, do 10 00 | 13 | Goat skins, each. 25 00 |
| Beet, do 1 00 | 00 | Dry Hides, do 18 00 |
| Sugar, Map. lb. 25 00 | 25 | Salted do 9 00 |
| Plums, dried, lb. 15 00 | 25 | Dry Mex. Hides. 17 00 |
| Peaches, dried, 15 00 | 25 | Salted do 9½ 00 |

PRODUCE, ETC.

| | | | |
|----------------------------|------|----------------------|-------|
| Codfish, dry, lb. 6 00 | 12½ | Barley, cwt. 1 75 | 21 85 |
| Flour, ex, per bbl. 7 50 | 7 50 | Beans, cwt. 2 50 | 25 25 |
| Superfine, do 6 00 | 7 00 | Potatoes, cwt. 60 00 | 60 00 |
| Corn Meal, 100 lb. do 3 00 | 3 00 | Hay, per ton. 20 00 | 20 00 |
| Wheat, per 100 lbs. 2 20 | 22 5 | Live Oak Wood. 9 00 | 10 00 |
| Oats, per 100 lbs. 1 90 | 2 10 | | |

FRUITS, VEGETABLES, ETC.

| | | | |
|-----------------------------|--------|-----------------------------|-------|
| Pine Apples, per doz. 50 00 | 50 00 | Cabbage, per doz. 75 00 | 21 50 |
| Bananas, per lb. 3 00 | 00 55 | Carrots, per doz. 10 00 | 25 |
| Cal. Walnuts, lb. 20 00 | 20 00 | Celery, per doz. 75 00 | 20 |
| Cranberries, per g 75 00 | 75 00 | Cress, per doz bun 20 00 | 25 |
| Cranberries, O. 75 00 | 75 00 | Dried Herbs, h'n 25 00 | 50 |
| Apples, Early, lb. 50 00 | 50 00 | Garlics, per doz. 5 00 | 5 |
| Red Astran, 1 50 | 25 50 | Green Peas, per lb. 8 00 | 8 |
| Red June, 2 00 | 25 50 | Green Corn, doz. 20 00 | 25 |
| Pears, table, per lb. 75 00 | 75 00 | Sugar Peas, per lb. 15 00 | 25 |
| Plume, Cherry, 6 00 | 6 00 | Cucumbers, doz. 15 00 | 25 |
| June, per lb. 10 00 | 12½ | Lettuce, per doz. 12 00 | 25 |
| Apricots, Royal, 3 00 | 3 00 | Mushrooms, per lb. 25 00 | 50 |
| Moopark, per lb. 3 00 | 3 00 | Horse radish, per lb. 20 00 | 20 |
| White, per lb. 2½ 00 | 2½ 00 | Okra, dried, per lb. 12½ 00 | 4 |
| Cherries, lb. 5 00 | 5 00 | Okra, green, per lb. 12½ 00 | 4 |
| Curants, lb. 6 00 | 6 00 | Pumpkins, per lb. 3 00 | 3 |
| Gooseberries, lb. 6 00 | 6 00 | Parsnips, per bunch 25 00 | 25 |
| Raspberries, lb. 18 00 | 20 | Parsley, per lb. 50 00 | 75 |
| Strawberries, lb. 8 00 | 8 00 | Pickles, per gal. 50 00 | 75 |
| Blackberries, lb. 8 00 | 8 00 | Rhubarb, per lb. 6 00 | 25 |
| Branges, per cwt. 30 00 | 30 00 | Radishes, per lb. 8 00 | 8 |
| Lemons, cwt. 5 00 | 5 00 | Green Peppers, 8 00 | 8 |
| Limes, cwt. 25 00 | 30 00 | Red, do 25 00 | 25 |
| Figs, dried, per lb. 12½ 00 | 12½ 00 | Summer Squash 6 00 | 3 |
| Asparagus, wh. 6 00 | 6 00 | Marrowfat, do 3 00 | 3 |
| Apricots, lb. 6 00 | 6 00 | Hubbards, per lb. 6 00 | 8 |
| Artichokes, doz. 50 00 | 50 00 | String Beans, lb. 6 00 | 8 |
| Brussels sprouts, 20 00 | 25 | Dry Lima, sh. 6 00 | 8 |
| Beets, per doz. 20 00 | 25 | Spinage, per bskt. 25 00 | 50 |
| Potatoes, sweet, 4 00 | 4 00 | Salsify, per bunch 12 00 | 25 |
| Potatoes, sweet, 4 00 | 4 00 | Turnips, per doz. 5 00 | 25 |
| Broccoli, per doz. 1 50 | 2 00 | New Tomatoes, 5 00 | 5 |
| Cauliflower, per 1 00 | 1 00 | | |

POULTRY, GAME, MEATS, ETC.

| POULTRY, GAME, MEATS, ETC. | | | | | |
|----------------------------|-----|------|---------------------|-----|------|
| Chickens, apiece | 50 | @ 75 | Bacon, Cal. per lb. | 18 | @ 20 |
| Turkeys, each | 20 | @ 25 | Oregon, do | 18 | @ 20 |
| Ducks, wild, per p | 20 | @ 25 | Hams, Cal. per lb. | 18 | @ 20 |
| Tame, do 100 | 1 | @ 15 | Hams, Cross' e c | 25 | @ 25 |
| Teal, per doz. | 50 | @ 50 | Choice D'field | 25 | @ 25 |
| Geese, wild, each | 2 | 50 | Whittaker's e. | 25 | @ 25 |
| Tame, pair, 2 | 50 | @ 30 | Johnson's Or. | 25 | @ 25 |
| From Chicago. | | | Salmon, per lb. | 6 | @ 10 |
| Hens, each. | 75 | @ 75 | Smoked, new, | 10 | @ 12 |
| Snipe, per doz. | 50 | @ 50 | Pickled, per lb. | 6 | @ 10 |
| English, do | 50 | @ 50 | Rock Cod, per lb. | 10 | @ 12 |
| Venison, per lb. | 10 | @ 10 | Kingfish, per lb. | 10 | @ 15 |
| Quails, per doz | 50 | @ 50 | Perch, s water, lb. | 8 | @ 10 |
| Pigeons, dom. doz | 00 | @ 30 | Fresh water, lb. | 12½ | @ 15 |
| Wild, do. | 50 | @ 50 | Lake Big Trout* | 6 | @ 8 |
| Hares, each | 40 | @ 50 | Smelts, per lb. | 6 | @ 8 |
| Rabbits, tame | 50 | @ 50 | Herring, fresh, | 50 | @ 62 |
| Wild, do, per p. | 25 | @ 20 | Sm'k'd, per 100 | 50 | @ 60 |
| Squirrel, do pair. | 25 | @ 38 | Tomcod, per lb. | 25 | @ 38 |
| Beef, tend, per lb. | 20 | @ 25 | Terrapin, per doz. | 3 | @ 40 |
| Sirloin and rib | 18 | @ 20 | Mackerel, p k ea | 12 | @ 25 |
| Corned, per lb. | 10 | @ 12 | Fresh, do | 12½ | @ 25 |
| Smoked, per lb. | 12 | @ 15 | Sea Bass, per lb. | 12½ | @ 25 |
| Pork, rib, etc., lb | 12½ | @ 15 | Halibut, | 50 | @ 50 |
| Cbope, do, per lb | 12 | @ 15 | Sturgeon, per lb. | 4 | @ 25 |
| Veal, per lb. | 15 | @ 20 | Oysters, 1000-l. | 10 | @ 20 |
| Cut, do. | 15 | @ 20 | Crabs, per doz. | 10 | @ 20 |
| Mutton chops,* | 12½ | @ 15 | Turbot. | 50 | @ 60 |
| Leg, per lb. | 12½ | @ 15 | Carbe per doz. | 10 | @ 10 |
| Lamb, per lb. | 18 | @ 18 | Soft Shell. | 37 | @ 50 |
| Shiraz, per lb. | 15 | @ 15 | Shrimp, per 100 | 10 | @ 20 |
| Tongues, nice ea | 15 | @ 15 | Pumpkin, | 1 | @ 10 |

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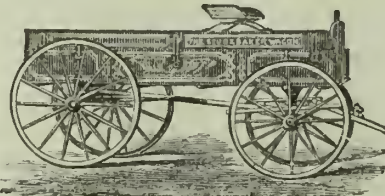
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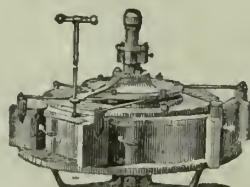
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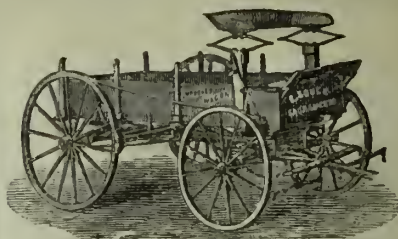
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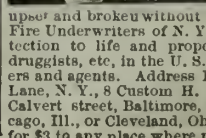
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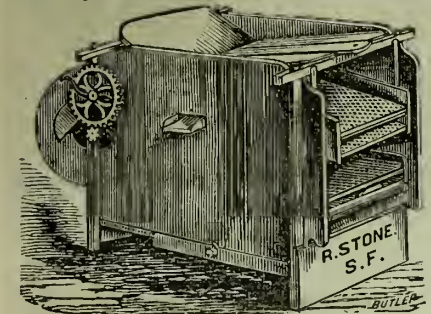
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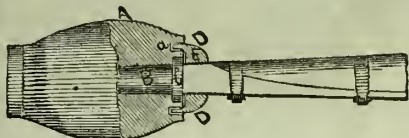
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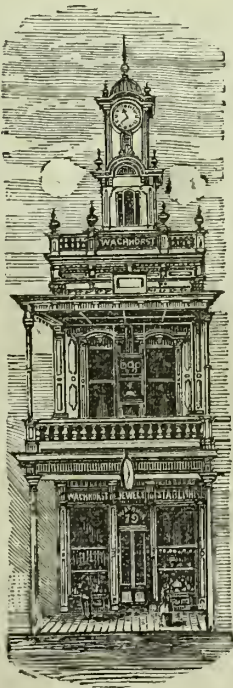
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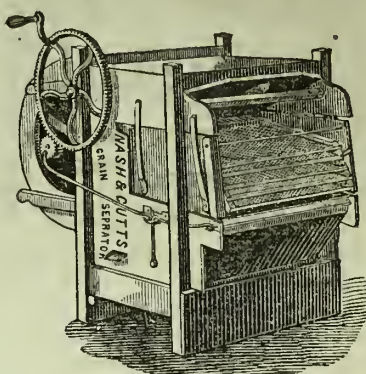
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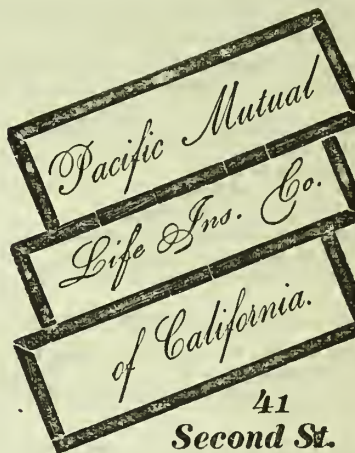
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Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

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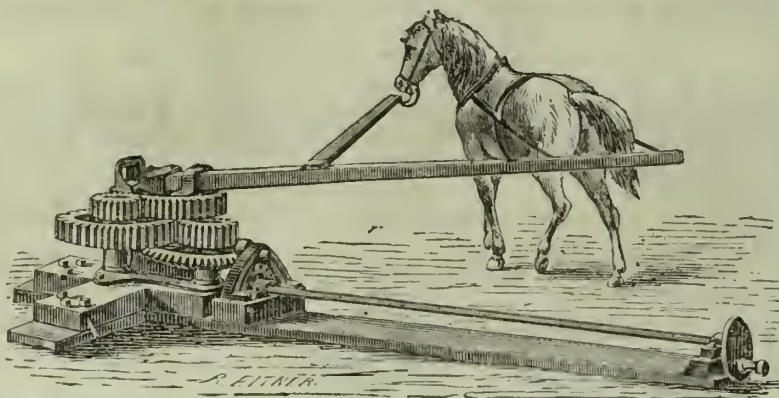
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Publishers, Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

ATWOOD & BODWELL,



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EXCELSIOR AND GOLDEN STATE WIND MILLS,

LITTLE GIANT HORSE POWERS,

PUMPS AND WATER TANKS,

Nos. 211 and 213 Mission Street, SAN FRANCISCO.

N. B.—We have made the manufacture of the above Machinery a Specialty for the past ten years, and guarantee all our work.



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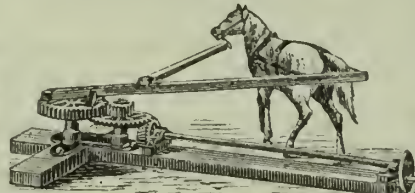
Patented November 23, 1869.

These Mills have stood the test and received the First Premium at the Mechanics' Fair in this city, and we challenge the world to produce their equal in point of Beauty, Strength, Durability and Simplicity.

They are the most easily controlled, run with the lightest wind, and are the least liable to get out of order of any Mill yet before the public.

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TO COMMENCE ON THE 18th, AND END ON THE 23d of September. Over \$20,000 appropriated in Cash Premiums.

LIBERAL SPECIAL PREMIUMS for all worthy articles not named in list. Exhibition divided into seven distinct departments, and a Gold Medal to be awarded to the most meritorious exhibition in each department. Competition open to all the States and Territories. A GRAND FLOWING MATCH between steam, gang and single plows is already fixed upon. Machinery of all kinds will be exhibited in motion, and the Silk business will be represented and explained. The Horticultural Exhibition will be composed of fruit from some twenty different States of the Union. The extensive and elegant assortment of Japanese and Chinese goods will be shown at the State Fair. All goods will be carried to and from the Fair by the railroad and steamboats free of charge, and passengers for half price. Applications for stalls at the Park, or space in the Pavilion, should be made to the Recording Secretary at once; and all stock or goods for exhibition should be on the ground by FRIDAY or SATURDAY, the 15th or 16th of September.

The HON. T. G. PHELPS has consented to deliver the Annual Address. The Opening Address will be delivered by the President.

By order of the Board. CHAS. F. REED, President. au26-4w

GEO. F. SILVESTER,

SEEDSMAN,

Importer and Dealer in all kinds of

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GARDEN TOOLS, PLANTS, TREES,

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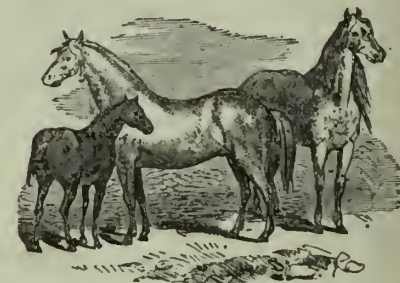
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FULL BLOOD PERCHERONS.

THE WHITE PRINCE!

The Percheron or Norman Horse, WHITE PRINCE, was imported into Ohio from France in July, 1870, accompanied by

A FULL BLOODED MARE.



White Prince was five years old last spring, and possesses the square, compact, solid form, with the good action of the Percheron race.

The Mare was bred in Ohio, from imported Percheron Stock, and has been

Awarded Three Premiums

at the State Fair in Ohio (that is as often as she could compete), as the Best Mare in the State.

Louisa, at four months old, weighed 640 pounds; girths, 5 feet; weight is not a matter of great interest; but the square, compact, nice form which she presents, is a matter to be especially noted.

I also at the same time (December last) imported

TWO THREE-QUARTER BLOOD MARES,

one of which has a promising horse colt.

From the above it will be seen that I am able to raise Full Bloods and High Grades.

For any further information, address

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8v23-3ms



PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 23, 1871.

[Number 12.]

Seal Rocks.*

The long rolling waves of the Pacific ocean as they approach the Golden Gate, are first checked in their shoreward progress by the bluff, weather beaten wall of the outer seal rock. These rocks lie on the western side of the peninsula of San Francisco, about 500 yards from the base of a bold cliff, six miles from the city of San Francisco. The road thither is the favorite drive of the elite of San Francisco, and of a fine Saturday afternoon may be seen conveyances of every description, filled with pleasure seekers on the road to and from the "Cliff." It is considered as "quite the thing" in fine weather to rise early, get behind a pair of good fast trotters and go to the Cliff House, kept by Capt. Foster, for breakfast. The morning is the best time for a visit, as there is seldom any wind then, and the view from the balcony (as shown in our illustration) is especially fine at that time of day.

The rugged, sterile rocks, with their fringe of white foam, stand out boldly against the sky, while at their bases the heavy wild surf breaks, with a sound as of distant thunder, rushing up the sides as if dooming them to destruction, and falls back disappointed, in sheets of trembling foam. Beyond, stretching further than the eye can reach, lies, in all its mysterious majesty, "old ocean's grey and melancholy waste" which now in the rays of the rising sun, glitters with what Homer calls *anerithmon gelasma* (innumerable laughter of the sea) bearing on its ever-heaving bosom many white winged types of the world's merchant marine. The huge bulk of that acme of mechanical skill, an ocean steamer, is seen passing on its way, laden with the products of our clime, or returning with its rich freight from Oriental shores. Way off on the horizon one dimly sees the Farallone Islands, and to the right, close at hand, is the appropriately named Golden Gate, the entrance to our far famed harbor, its portals ever open to commercial enterprise, and above which frown the walls of the fort which guards the same.

Beyond are the dark precipitous bluffs and points of the northern peninsula, over which is visible the pine-capped peaks of Mount Tamalpais. On one of these points, high above the dashing waves, is a light-house, the welcome sentinel to the "wanderer of the trackless way," guiding him after his battle with the elements into the wished-for port. Still further to seaward lies Point Reyes, where Sir Frances Drake is said to have landed, and on which the surf piles up in immense white breakers as if angry at its interrupted march. To the left and southward is the long sandy beach, a favorite drive, where the waves after the extent of their fury is expended,

run up in curving, creamy ripples. This beach so quiet now has been the grave of many a noble ship dashed by the remorseless waters on its sands, and the fragments scattered far and wide.

The rocks themselves are covered with birds and seals or sea-lions, the latter of which keep up a constant roaring, and climb up the slippery heights, their coats shining with water, only to plunge back into the turbulent waves and sport with each others as if to enjoy themselves was the object of their existence. On the approach of man they invariably take to the water, and the report of a gun sends them tumbling promiscuously down the rocks in the utmost confusion. Occasionally a more ambitious one will reach the summit

The American Pomological Society.

The regular annual meeting of this association commenced its session at Richmond, Va., on Wednesday, the 6th inst., and the display of fruit is said to have been the most superb and extensive ever witnessed in the country. The fruits from this State attracted much attention. The *Richmond Dispatch* somewhat facetiously remarks:—"The California fruit had a peculiar glow—a sort of sunshine condensed or extract of gold—which fairly lighted up the table on which it was displayed. In many respects it excelled anything which the Atlantic States could possibly produce." In the regular report of the exhibition given in that paper we find the following:—

CALIFORNIA.

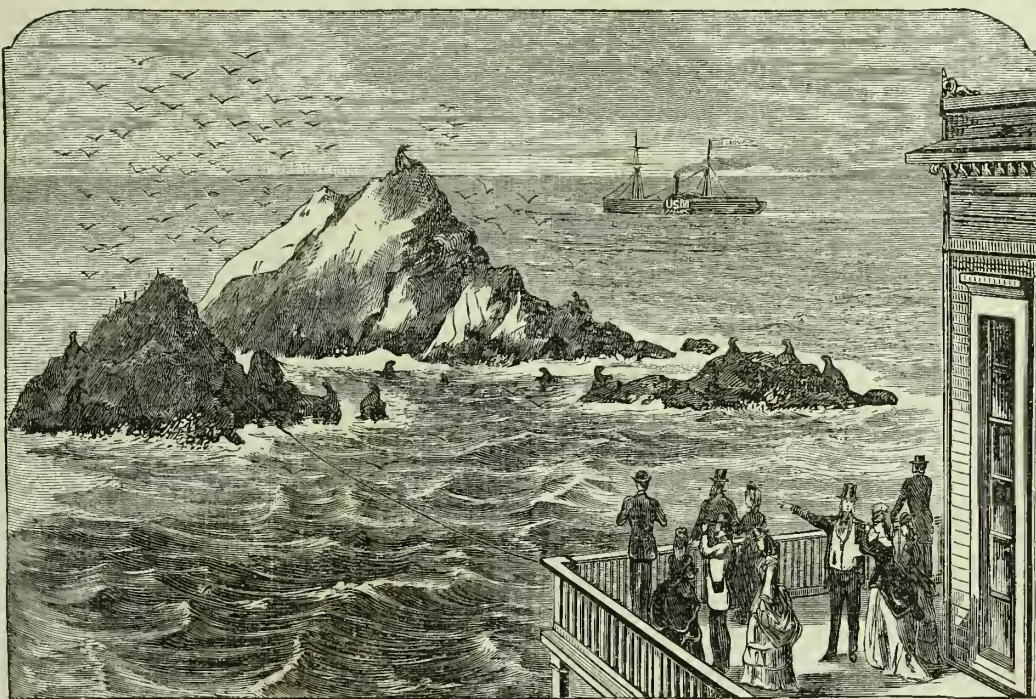
The collection from this State perhaps

feeling and mutual friendship. The Association was most cordially welcomed by the Mayor of the city, while the Capitol building of the State was thrown open to receive them. The address of welcome by Mayor Keiley was most happily conceived, as was also the reply of President Wilder, and the whole proceedings were such as to make happy and glad the hearts of all present.

This meeting of the lovers of fruit culture from widely distant parts of the Union was the 23d which has been held since the organization of the society, and was one of unusual interest and importance. The direct object of these gatherings and exhibitions is to advance one of the most useful and delightful branches of agricultural industry—the cultivation of fruits, and to promote and perpetuate a cordial spirit of intercourse between pomologists of all sections of the Union; but as already intimated, one of the most important indirect effects resulting therefrom is an intersectional pledging of general good feeling and mutual friendship. Such occasions draw forth all the best feelings of our nature, and cannot fail to melt into friendship the hearts even of the most embittered persons, who will place themselves within the scope of their influence. We heartily agree with our cotemporary of the *Dispatch* in his utterance that "if the politicians would only let us alone—if we could be, for a season at least, relieved from the schemes of office-hunters, who are the drones of the country as well as the disturbers of the public peace—the people of this Union would be hearty and sincere friends in six months."

It is to be hoped that such national exhibitions may be more frequent, and more generally attended. National funds, even, might be most beneficially expended in promoting them. They are a most potent help in advancing the wealth and industry and comfort of the people; and above all in restoring the good feeling we so much need, and in binding together our people in a united brotherhood of neighborly good will and social friendship.

SAWMILLS IN OREGON.—The *Oregonian* gives the number of sawmills in operation in each county in that State, which foots up a total of 173, about one-quarter of which are driven by steam—the balance by water. The capacity of these mills is estimated at 1,200,000 feet of lumber per day. The largest of the number is located at Milwaukie, owned by the Oregon and Central Railroad Co., and has a capacity of about 140,000 feet per day. This list is supposed to be quite incomplete; and aside from those here enumerated are quite a number of mills situated on the Washington side of the Columbia, but which supply much lumber for Oregon, and for many vessels engaged in the Oregon trade.



VIEW OF SEAL ROCK FROM THE CLIFF HOUSE.

and there lie sunning himself in majestic idleness as if admiring the prospect. Some of the largest weigh from 2,000 to 5,000 pounds, and to see one of these huge amphibious monsters—"Ben Butler," for instance—basking in the sunshine, his head erect, and moving slowly from side to side, indifferent to the roar of the turbulent waters, is alone well worth a visit. With a good marine glass one can watch the motions of these unwieldy beasts, and see them tumbling in and out of the water, crawling awkwardly around and keeping up their peculiar and incessant noise. The eye of this animal is round and beautiful, and it is directed toward you with a look almost of intelligence, while the countenance shows tokens of great sagacity. A wise provision of the law prevents the wanton destruction of these monsters of the deep in this particular locality.

The passage from the Cliff to the summit of one of these rocks has been made several times by would-be Blondins, on a rope, the representation of which is shown above.

*We are indebted to Crofutt's Trans-Continental Guide for our illustration.

attracted more attention than any other. It embraces a great variety, and almost every specimen is remarkable for its superior quality. Having been carefully packed in plaster, and by experienced hands, the fruit was all in excellent preservation. We noticed fine apples, mammoth pears, figs, grapes, plums, and oranges on this table. The grapes far exceeded anything else of the kind on exhibition, and the pears are beautiful to the eye and luscious to the taste. Dr. Curtis is in charge of the California table.

Some 20 different States were represented in their respective shows of fruit. Iowa seems to have taken the lead in apples. One of her exhibitors, Mark Miller, editor of the *Western Pomologist*, exhibited 118 varieties of this fruit, all raised near Des Moines, where 23 years ago there was not the sign of an apple tree of any kind. Another gentleman exhibited 115 varieties.

Hon. M. P. Wilder, of Massachusetts, the veteran President of the Association, made a most magnificent display of pears, all raised by himself. His exhibit embraced no less than 230 different varieties.

The meeting of the Association, on this occasion, seems to have been one of more than usual intersectional pledging of good

MECHANICAL PROGRESS.

The Westfield Explosion—Differential Expansion.

Among the mass of testimony submitted during the recent investigation into the causes of the explosion on board the steamer Westfield, none perhaps has attracted more general attention among educated and practical mechanics than the unequal expansion theory, advanced by Mr. Norman Wiard, a gentleman whose ability as a mechanic is well known. The force exerted by unequal expansion is evidently not fully appreciated by mechanics generally; and quite too little attention is paid to this matter in the construction, setting, and management of steam generators. The theory of Mr. W. is not confined to mere speculation; but is founded upon numerous and carefully conducted tests.

According to this theory no boiler is safe, under any practical degree of pressure, unless the conditions of differential expansion are fully recognized and provided for in the construction and management of boilers. To substantiate the truth of this assumption the case of the mysterious explosion of a boiler at Grand Rapids, Michigan, is adduced, which at the time of the explosion contained neither water nor steam, and from which the man-hole plate had been removed; but from under which the fires had not been completely removed.

If any one desires to test this theory and determine approximately the force exerted by differential or unequal expansion, it can be done without the use of a boiler. An old car wheel or pulley will answer the purpose. Place the rim so that cold water may trickle freely upon it, while the flame of a spirit lamp is introduced into the eye. The result will satisfy the most skeptical experimenter, provided he places himself out of the way of the flying fragments which will be violently projected by the explosion which is sure to follow. If the wheel or eye be large, perhaps two or three small flames might be required. Car wheels have been known to burst from this cause, without the aid of water or flame—the catastrophe being sometimes hastened by the slight tap of a hammer on the rim in "trying" them. The frequent bursting of lamp chimneys and globes is another familiar illustration of the force of unequal expansion, occurring sometimes when hanging in their places or snugly laid away upon a shelf; but oftener when subjected to sudden currents of air while heated by the flame of the lamp.

HAMMERING AND SQUEEZING PUDDLED IRON.—An Eastern journal says that in several of the iron mills where the Sellers hammer is employed, puddled balls are squeezed by being placed on the anvil and subjected to the powerful pressure of steam admitted above the piston. The squeezing saves much metal which would fly off under the blow of the hammer, or which would be crumbled off in the rotary squeezer. When the ball is compacted by pressure, it is patted and then hammered.

To this statement the reply is made that very many practical men claim for the rotary squeezer that puddled iron that is unfit for sale is detected by its use; that the iron would be "crumbled off" by passing through the rotary squeezer, is not fit to reach market through the manipulation of any other machine or process; that the unskillful workman (puddler) is known from the good one, and, that supposing the balls from the puddling furnace to be all of a size when subjected to the squeezer or hammer, and reduced to the same size by either, that the cinder is as thoroughly ejected by the one as it is by the other.

When the rotary squeezer was first introduced, it was urged against it that the iron would not be as good as if reduced by the "solidifying process of the hammer," but it is now pretty well understood that a small amount of hammering or squeezing preliminary to a much greater amount of rolling, does not much effect any great dif-

ference in the quality of the finished iron. Iron that requires to be "patted" is made from a common stock, or is insufficiently puddled, and to be sure would not stand the test that a rotary squeezer would subject it to. We here speak of iron made for general use; iron of a first class quality for rails frequently passes through the squeezer in a very unsatisfactory manner.

Art in Metal Work.

We have often remonstrated against the incongruous character of our metal work. Here there is a comparatively untrodden path of art. Cast and wrought iron work are extensively employed in building. These are as capable of artistic treatment as the brick or stone building with which they are incorporated. Generally, however, they are either covered up, or else made in the forms of stone architectural features, as though metal were something to be ashamed of; as though it had no properties that did not suggest life and beauty in artistic design, allowing the metal to appear, and making its use, strength and appearance forcible; marking and emphasizing it in the building; and, instead of hiding it, or making it appear like some other material, giving it a definite design and character of its own. Thus, by its force and contrast, it would very greatly add to the effect of the building where it was employed. There is no exception in the case. All kinds of purposes for which metal is used in buildings might be marked and emphasized by artistic treatment. How much less of sameness and tameness would there be if this were done, and how much greater would be the artistic feeling and force so very desirable. There is a great scope here, and until more is done in this department there is something wanting.

The employment of zinc for external cornices and canopies is coming into vogue. Setting aside the question of durability, why is it not possible to treat the material artistically as metal? What is the necessity of making it appear like stone? Even with a design resembling the treatment of stone, it looks far better with its glossy, natural color, as metal, than when smeared and deadened with paint not at all in accordance with its nature.—*American Builder.*

TREATMENT OF STEEL.—Mr. Howell, in the *Journal of the Society of Arts*, says that steel plates, especially such as are intended for ship building should as soon as possible after their manufacture, be submerged in boiling linseed oil. Plates thus coated have been found after three years' exposure to the weather, to exhibit not the slightest tendency to corrosion, though subjected to alternate wet and dry. Mr. H. considers that the life of the plates will be lengthened greatly by this process, and that the plates will take paint much better for it. It is most important, too, that destructive oxidation should be avoided as much as possible. The newly formed oxide arising from the heat of the furnace does not decay until exposed. The oxide formed on steel plates in the fire is much more tenacious than that formed on iron, and forms more completely part of the plate, being very difficult of removal.

Another point of importance urged by Mr. Howell, which, however, is generally acknowledged, is the desirability of having the drill used instead of the punch in perforating the rivet holes in steel plates.

THE MANUFACTURE OF CHINESE GONGS.—The secret of the manufacture of Chinese gongs is said to have been recently discovered by M. M. Julian and Champion, who have found that bronze which is brittle at ordinary temperature becomes malleable at a dull red heat. The makers of bronze implements of ante-historic times, were evidently aware of this fact, as also were no doubt the manufacturers of the bronze lamps, etc., found in Pompeii and other buried Italian cities. Some experiments have been made at the Paris mint with the view of determining the conditions most favorable to working such alloys, and it has been found that a bronze containing 20 per cent. of tin, which is as brittle as glass at an ordinary temperature, may, at a dull red heat, be forged and beaten out as readily as soft iron.

ANGLE STEEL.—not angle iron,—is a new article of manufacture, designed to take the place of angle iron in the construction of safes. Its advantages for the purpose, over iron, is apparent.

SCIENTIFIC PROGRESS.

RUST.—It is well known that when iron is exposed to the action of pure dry oxygen, no oxidation or rusting occurs. It is commonly supposed that moisture is the essential condition to the oxidation of iron; but a series of carefully-conducted experiments have shown that iron is but slightly oxidized in pure moist oxygen, but if to this is added a trace of carbonic acid, the oxidation takes place rapidly. The experiments alluded to substantiate the interesting fact that carbonic acid is the real promoter of oxidation. Long ago, Berzelius, and other chemists observed that caustic alkali prevents the oxidation of iron. It is now established that carbonates and bicarbonates possess the same properties as their hydrates. If an iron blade is half immersed in a solution of an alkaline carbonate, it exerts such a preservative influence on that part of the bar which is exposed to an atmosphere of common air, which always contains carbonic acid, that it does not oxidize after a period of two years. Similar results were obtained with sea-water to which had been added carbonates of potash and soda.

THE EMPLOYMENT OF INDIGO.—Until within a few years indigo was thought to be insoluble in almost all reagents which did not decompose it; but the increasing extent of its employment rendered the discovery of new solvents a matter of much moment. Recent researches, in efforts to meet this want, have disclosed several new agents in which it can be dissolved, and from which solutions it crystallizes on cooling. The *Chemical News* says that hot aniline dissolves indigo, forming a solution from which, on cooling, the indigo crystallizes in beautiful coppery spangles. Venetian turpentine, also, heated to its incipient boiling point, is a solvent for indigo, which, after cooling is readily purified by the aid of ether or alcohol. Boiling paraffine also dissolves indigo, and can be readily removed after cooling, by means of benzole. Spermacetti, stannic acid, chloroform and petroleum are also said to be more or less perfect solvents for indigo.

A NEWLY INVENTED RAIL.—Letters-patent have been taken out for a new rail for railroads, which promises to do away with the continual rattle and jar of railroad travel. It is a continuous T rail for which the inventor and those who have examined it claim important advantages over any rail now in use. The rail is in two sections, the upper section lapping over the lower and fastened there by horizontal bolts. Between the sections is india rubber packing, five-eighths of an inch in thickness. It is thought the use of this rail will prove important in many respects and be much cheaper in the end than those now in use. The upper section may be made either of iron or steel, and when worn out can be laid without disturbing the under section.

A great expense will thus be saved in relaying the track. The india rubber packing will give the car an easy and almost noiseless motion, and prevent the sharp concussions which so frequently result in the breaking of the axles. The saving to rolling stock will be an item of very great importance, and will commend the use of the improvement to all companies that study economy as well as safety.

COLORS ELECTRIC LIGHTS.—M. E. Becquerel has shown that the electric spark may be diversely and beautifully colored by being made to pass through saline solutions. If an electrical spark from an inductive apparatus be made to pass into the extremity of a platinum wire suspended over the surface of a solution of a salt, this spark will acquire special coloration according to the chemical composition of the solution traversed. The saline solutions are best concentrated, and the platinum wire positive. The experiment is readily performed in a glass tube. Salts of strontia will color the spark red; chloride of sodium, yellow; chloride of copper bluish green, etc. The light from these sparks, analyzed by the spectroscope, furnishes a method for the determination of the nature of the salts contained in the solution.

PSYCHIC FORCE.—Mr. Coleman Sellers, of Philadelphia, well known as an able mechanical engineer, and who is also an amateur prestidigitateur of unusual skill, in a brief article in the *Franklin Journal*, throws considerable doubt over the genuineness of the manifestations of "Psychic force," lately announced by Dr. Crookes, and supported by Mr. Huggins, and others.

Mr. S. thinks the condition for excluding the possibility of facilities for sleight-of-hand, and other related descriptions, were not so thorough as they should have been.

He compares the floating accordion to the acknowledged trick of Hermann's floating wand; and suggests the possibility of ventriloquism to account for the music.

He thinks the statement that the strip of "mahogany board, 36 inches long by 9½ inches wide and one inch thick," with three pounds suspended in the balance and (by assumption) three (an equal weight) on the table, making a total weight of only 6 pounds, rather a loose report, when the books and practical experience show that such a board ought to weigh about 13½ pounds. Such an apparent mistake he thinks must detract from the general reliability of the entire series of experiments.

ORIGIN OF GRAPHITE.—Prof. Wagner ascribes the deposits of graphite, plumbago, or black lead, which are found in a great variety of rocks of different geological periods, to the decomposition of cyanogen, which is a combination of carbon and nitrogen, or of the cyanides. In several chemical processes, used in the arts, graphite is formed artificially; and it is not impossible that this extensive mineral, the best specimens of which are now brought from the island of Ceylon, may be produced artificially in such quantities as to be made available in several branches of manufactures where this mineral is indispensable. Chemists, however, have not yet accepted Prof. Wagner's explanation, or any other, as to the natural production of graphite.

DEATH BY DROWNING AND COLD.—Dr. Richardson has shown, amongst other experiments, that fish that would be presumed to be dead from what he called "glacial death," were easily recoverable. Death from drowning under ice is one of the most rapid of deaths, and is completed with so quick an extinction of consciousness as to be actually painless. The heart retains its power of action, the blood remains fluid, and the muscles keep up their irritability for a long time after apparent dissolution; and so favorable are all the conditions for renewal of living action, even for two hours, that a considerable advance in the practice of resuscitation must follow upon further careful and laborious experimental research.—*Lancet.*

A NEW LIGHT.—Dr. Harcourt, of Paris, proposes a new system of illumination. He reduces ordinary illuminating gas by admixture with a certain proportion of atmospheric air and then brings up its illuminating power by allowing the flame to impinge upon platinum-sponge. The result is said to be an increased light with less expense.

THE SUN SPOTS.—Prof. Daniel Kirkwood has determined, as he thinks, that the period of the sun-spot cycle is gradually lengthened—it being a variable and not a constant figure; and he draws from this fact the conclusion that the cause of this phenomenon is not to be sought in the influence of the planetary bodies, for this influence, being constant, would preclude any variation in its effects; but it must be sought in some purely physical cause operating upon the sun's body.

ANOTHER SIMPLE TEST FOR STEEL AND IRON.—Mr. H. A. Walker, of Tarboro', N. C., proposes that the scintillation of iron and steel filings, when put in a fire, be made of use to test the quality of the metal. The different degrees of brilliancy, as well as the readiness with which the filings sparkle in the fire, are suggested by Mr. Walker as proofs of the varying purity of the iron or other metal. The test is handy and convenient, and might be of practical value.

CORRESPONDENCE.

From County to County.

Eds. PRESS:—The crops in Stanislaus county for this year are equal to those of its neighboring counties. On the high lands they are about the same as the average yearly product, while upon the valley lands less has been grown.

Knight's Ferry.

The crops at this place are light, and are just being harvested; fruit, however, to which the most attention is paid, is abundance. This is the garden spot of the county, and the traveler with any appreciation of growing nature will contemplate with satisfaction the abundance and fruitfulness of the surroundings: Poets sing of hidden beauties in nature's wild retreats and the inspiration excited by seeing tall forests and craggy peaks; but the one who can look with admiration on a sterile mountain and unproductive water-fall in the distance, and with lack-lustre eye on the ground teeming with vegetable life near his hand, must truly be deficient in his powers of observation.

Shell, Krause & Co.'s Vineyard.

The vine is now attracting much interest here, and Stanislaus will yet occupy a high position on the Pacific Coast as a grape-growing county, by reason of its natural advantages. I visited the vineyard of Shell, Krause & Co., on Red Mountain, about two miles from Knight's Ferry, and was much struck with the fitness of the location, which has a northeastern exposure, and just enough descent to make irrigation easy. The system of laying out vineyards so as to expose them to the rays of the sun from the northeast, when practicable, is receiving general approval, and in many cases becomes almost a necessity. This is just the opposite to what is required in the Eastern States, where a southern exposure is needed to give the vine all the benefit of the heat, while here it is essential to avoid the direct rays of the sun. The practice of growing rank kinds of grasses and cultivating but little, is becoming popular as well as successful for this reason.

The vineyard contains sixty acres of three-year old vines, and 40 more acres are to be planted this year. The product will be 30,000 gallons of wine and a considerable quantity of brandy, and from this same ground the owners expect a yield of 60,000 gallons in three years time. The buildings are the distillery, coopers shop, ageing, press, and vinegar rooms. The cellars are made by tunnelling into the solid rock, and one of them now being dug, will be, when completed, 200 feet in length. The ageing room contains a small portable engine and a large churn with a capacity of 700 gallons, through which passes a steam pipe three inches in diameter for the purpose of heating the liquor. It is raised to a temperature of 120° F, and when the churn is two-thirds full it is put in motion. The temperature is carefully retained for 12 hours, during which time the motion is continued. This is considered to be equivalent to one year's age in the wine although this system of "taking time by the fore-lock" is very simple.

Pentland Bro.'s Garden

Was the next place of interest to me, and though grape raising is made a specialty, many other classes of fruit are grown. The grapes are of the finer varieties, principally Muscat of Alexander and Black Hamburg. The vines are now four years old and many of them will produce this year fifty pounds. I saw single bunches gathered that weighed five pounds. An average of 1,500 pounds a day is shipped daily to San Francisco, including some other kinds of fruit.

Two Danube watermelons that I saw here weighed 20 pounds each. The seed was imported last year by Mr. D. F. Huff, of Vacaville, and how much larger they will grow when thoroughly acclimatized, is yet to be seen.

Amateur gardeners are quite numerous and I visited by invitation the gardens and orchards of Messrs. Roberts and Hostler and Dr. Marks. The beauty and arrangement of these gardens reflect credit on the owners and they are really the finest I have

ever seen in California. The lemon and orange grow here almost in perfection.

Irrigation.

There is now a project on foot that if carried out according to plan, will afford opportunities for irrigation to a large section of country. The soil in general consists of what is known as sandy loam, with base of amygdaloid or conglomerate volcanic rock which contains in some quantity silica, lime, alumina and potash, the principal essential elements of fruit. I must now leave this delightful locality and go reluctantly down the river, hoping, however, that it may be my fortune to sojourn at this pleasant town again at some future time.

NINO.

Grape Growers' Association of Sonoma, Napa, and Solano Counties.

Pursuant to adjournment, the Association met in Napa city, on Saturday, Sept. 9th, 1871, the President, Maj. Jacob R. Snyder in the Chair.

Present from Sonoma county: O. W. Craig, J. Dressel, Leonard Goss, A. F. Harazthy, J. R. Snyder, A. S. Edwards; from Napa county: G. Backus, Chas. King, J. A. Lockwood, W. W. Lyonau, G. Meliavacca, W. McClure, D. K. Rule, J. J. Siegrist, J. York; from Solano county: H. T. Barker, F. Miester, W. Miester.

The annual election of officers resulted in the following choice: President: J. R. Snyder, of Sonoma; Vice-Presidents: Wm. McP. Hill, of Sonoma, E. D. Keyes, of Napa, and W. Miester, of Solano; Secretary: J. A. Lockwood, of Napa; Treasurer: O. W. Craig, of Sonoma.

Reports from committees being in order, Dr. Rule from a Special Committee on Game Laws, reported a memorial to the Legislature praying for such a modification of those laws, as would withdraw the protection they afford to quail frequenting vineyards.

The report elicited a discussion in which Messrs. Dressel, Craig, Rule and others participated. It was affirmed that the quail and linnet are the most destructive birds to the grape—although grapes are not found in the craw of quail, because they reject the seed and skins. Their depredations cost the grape grower more than the feed of their domestic fowls. The reputation of other birds—bluejay, lark, blackbird, etc., was vindicated. Report accepted.

The Committee on Statistics appealed for assistance to prepare returns of present vintage.

Mr. King moved the committee be authorized to have printed such forms as may be required.

Mr. Miester objected to the publication of returns that might prejudice the interest of the proprietors.

Mr. Barker opposed the views of Mr. Miester.

Mr. McClure considered that general results need only to be published.

Mr. Goss, in order to remove the objection to giving full returns, moved that the forms should express on their face that the wishes of grape growers to keep private any information they might give, not intended for the public, should be rejected.

Amendment accepted, and motion carried. Mr. Craig moved that the resolution offered by Dr. Lockwood at the last meeting, respecting coopers and dealers in casks, be adopted, and that the Secretary open a record in the journal, for members to register their purchases of casks, the quality, etc., and that it be the duty of each member to make such records. Carried.

Dr. Rule moved that no cooper be censured on the books of this Association, without a special committee being appointed to investigate the complaint. Carried.

Mr. Harazthy moved that the wages paid to Chinese labor be classified according to their skill, and be made uniform. He would propose one dollar a day for teamsters and collar-men, and eighty cents for unskilled hands, as pickers.

Mr. Siegrist proffered paying pickers by the job.

Mr. Dressel thought Chinese would not consent to pick by the ton; although, it would be to the advantage of the employer, if they would.

Dr. Rule said a Chinaman would pick one ton a day—a German trained in a European vineyard, would pick from two to three tons.

Mr. Harazthy, who had ample experience in Chinese labor, said their average

pick was 1500 lbs. a day; but if Americans and Germans were with them in the gang, to hurry up work, their ordinary pick was a ton each.

Mr. Miester had found a Chinaman would pick one ton—Americans and Germans a ton and a half.

Mr. York had picked ten tons a day with five white men.

Dr. Rule was opposed to fixing a uniform rate for paying labor. He deprecated the principle of laborers' leagues who demanded a certain sum, without regard to the value of their services rendered. He preferred to pay good men high wages, and to kick out the worthless.

Mr. Craig did not believe that vineyardists would be bound by any scale we might fix, and if they did, they would be the sufferers, as he had experienced a year ago.

Mr. Goss, forcibly opposed, at some length, the principle of laborers' leagues involved in this movement. He had been an employe 30 years, and had found all such projects inefficient except for mischief.

Mr. Harazthy had called up the subject at the instance of a local society; but as it seemed to meet no favor with the Association, he withdrew it.

The President asked the attention of the Association to the subject of "Fence laws," and called for the reading of a statistical article he held in his hands. Being read, and briefly discussed, the subject was referred to a committee, to report at the next meeting. Messrs. King, Lockwood and Rule were appointed.

Messrs. E. P. Cutter, A. Gotzchalk and A. Kitz, were admitted as members.

On motion, Association adjourned to meet at Napa city, Saturday, November 11th, 1871. J. A. Lockwood, Sec'y.

HINTS FOR THE FARM.

A Great Farmer's Maxims.

The successful life of Mr. Jacob Strawn, the prince of American Farmers, is attributed to the close observance of the following maxims, originated by himself:

When you wake up do not roll over, but roll out. It will give you time to ditch all your sloughs, break them, harrow them and sow them.

Make your fencing high and strong, and tight, so that it will keep the cattle and pigs out.

If you have brush make your lots secure, and keep your hogs from the cattle; for if the corn is kept clean they will eat it better than if it is not.

Be sure to get your hands to bed by seven o'clock—they will rise early by force of circumstances. Pay a hand, if he is a poor hand, all you promise him; if he is a good hand pay him a little more; it will encourage him to do still better.

Always feed your hands as well as you do yourself, for the laboring men are the bone and sinew of the land, and ought to be well treated.

I am satisfied that early rising, industry and regular habits are the best medicines ever prescribed for health.

When rainy, bad weather comes, so that you can't work out doors, cut, split and haul your wood.

Make your racks, fixing your fence or a gate that is off its hinges, or weatherboarding your barn where the wind has blown the siding off, or patch the roof of your barn or house.

Study your interest closely, and do not spend any time in electing presidents, senators and other small officers, or talking of hard times when spending your time whittling store-boxes, etc.

Take your time and make calculations, don't do things in a hurry, but do them at the right time, and keep your mind as well as your body employed.

What Farmers Cannot Conceal.

A poor farmer cannot conceal the fact that he is a poor farmer. All his surroundings proclaim the verdict against him his horses, cattle, wagons, harness, plows, fences, fields—even his wife and children bear silent unmistakable evidences against him. On the other hand, all things will testify favorably on behalf of the good farmer. Every passer-by can read the pro and con. This fact alone ought to stimulate every farmer to do his best for the sake of his own character, as well as interest; for he may rest assured that every passer-by will pronounce judgment according to the evidence.

"Murder will out." Nobody should try to conceal it. A good farmer will be known and a bad farmer will tell it to

everybody. If the conscript officer does not pull him out between two "old women" with night-caps on all three, he will be like the little urchin who could not stay hid when he hallooed "here is me!" A bad farmer buys his corn and meat, ax handles—well, everything down to mean whisky. Show him up. Every broken pane, every straight-tailed pig, empty corn house, broken-down fence, poor calf, pale haggard wife—all cry out, thou art the man. The whisky shop has painted front and green blinds, but the poor farmer never finds weather suitable to paint in front or rear.—*Southern Farmer*.

Sexes of Animals at Will.

Although stock breeding has long been elevated to a science, and many valuable theories deduced as to the means of improving stock, yet but little has been accomplished in the way of regulating the production of the sexes, which oftentimes would be of incalculable value to the stock raiser. That such is not impracticable, has been already demonstrated with considerable success. One of the first writers on the subject is M. Thury, professor in the Academy of Geneva who observed that the queen bee lays female eggs at first, and male eggs afterwards, that with hens the first give female, and last, male products, that young bulls who meet the female at the first signs of heat, generate heifers more frequently than old bulls, who are exhausted and do service later; that mares show the stallion late in their period, drop horse colts rather than fillies. Upon these observations he formulated the following law for stock raisers: "If you wish to produce females, give the male at the first sign of the heat; if you wish to produce males, give him at the end of the heat. A celebrated Swiss stock raiser, son of the president of the Swiss Agricultural Society, Canton de Vaud, in publishing his experience in 1866, says, in speaking of the accuracy of this law: In the first place, on twenty-two successive occasions, I desired to have heifers. My cows were of Schwitz breed, and my bull a pure Durham. I succeeded in these cases.

Having bought a pure Durham cow, it was very important for me to have a new bull to supersede the one I had bought at great expense, without leaving to chance the production of a male. So I followed the direction of Professor Thury, and the success has proved once more the success of the law. I have obtained from my Durham bull six more bulls with (Schwitz cows) for field work, and, having cows of the same color and height, I have obtained perfect matches of oxen. My herd amounted to forty cows, of every age—in short, I had made in all twenty-nine experiments of the new method, and in every one I succeeded in what I was looking for—male or female. I had not one single failure. All the experiments have been made by myself, without any person's intervention; consequently, I do declare that I consider as real, and certainly perfect, the method of Professor Thury."

It is sufficient to say that experiments on the same law have been tried by other eminent agriculturists with equal success.—*Penton's Scientific Farmer*.

The Boy Ahead.

Not many miles from Salem there lives a farmer who does not read the farmer's paper. This may sound very strange, but it is true. There are several large land-owners hereabouts who do not support the paper which is devoted to their interests. Now, this farmer we are speaking of, has a boy. Last year he had a field set apart for fall wheat. He plowed it in the spring. The boy wanted to plow it again in the summer, but the "old man" objected, saying it would "kill the land." The boy surreptitiously managed to plow a part of the field when the "Governor" put a stop to his proceedings. Wheat was sown on the entire field, when the rains began, and the late harvest revealed the fact that the yield was one fourth better on that part of the land which the boy had "killed" by summer plowing. Now, the secret of the whole thing was that the boy had been away from home working for some of the neighbors, and had read the *Willamette Farmer* and other good papers. This was the way he learned "his new fangled notions" about plowing. The extra yield of wheat on one single acre of that land would pay for three good papers for one year. We hope that farmer will subscribe for a paper, and that many other boys in Oregon will manage to teach their fathers lessons by reading their neighbors' papers.—*Willamette Farmer*.

THE HORSEMAN.

The Thoroughbred Horse.

The *Dutchess Farmer*, in an article on the thoroughbred horse, very tersely sums up his points of superiority, as follows:

1. They are more intelligent, possessing more brain and nervous matter.
2. They are, from their intelligence, more tractable and kind in their disposition and temper.
3. They are less liable to disease, from a superior organization.
4. They are more elegant in carriage and appearance.
5. They are superior in action.
6. They endure the vicissitudes of heat and cold better.
7. They live to a much greater age, maintaining their usefulness.
8. They are superior in fleetness, durability, bravery and breathing powers.
9. They always have, and always will command higher prices in the market than any other breed.

If you will examine the thoroughbred you will, on investigation, find a superior animal organization—his bones are more solid, his tendons stronger and much better defined, his muscles more firm and elastic—in fact, his form and quality are so much superior, it results that he is much more active, much more fleet and powerful than any other variety of the horse tribe. He will perform much more labor in a given time, and repeat the task oftener, coming round much quicker from overwork than any animal of inferior blood. When the cold-blooded horse is overworked, his spirits sink, and his recovery is slow, and sometimes never complete. A square inch of bone from a thoroughbred horse is much heavier than a square inch from a cart horse, resembling pumice stone, while the former is solid, partaking more of the close-grained nature of ivory. The same remark will apply to the tendons and muscles. Consequently, a thoroughbred horse will be stronger than a cart horse in a little more than half the compass. It is asserted—and is doubtless true—that the thoroughbred horse can support a greater weight on his back than the common horse.

Water for Horses.

In the *English Farmers' Journal*, Mr. Benjamin Cartledge, of Sheffield, a member of the Royal Veterinary College, calls attention to the very common mistake made by keepers of horses in limiting the supply of water to their animals. Many owners of horses, mostly grooms, and others who have charge of them, profess, he says, "to know how much water a horse ought to be allowed, and when a poor, thirsty over-driven animal arrives at his journey's end, he is treated to a very limited supply, and the pail is taken away before its necessity is half met. It is a mistaken notion that cold water frequently produces "colic." I have often known it to cure the disease. When cold water does cause abdominal pain, it is from long abstinence, and when the horse drinks to excess. But even this is rare. I allow my horse to drink from every trough I meet on the road, if the water be clean, and in my own stable, I never had a case of colic. At home, my horses always have water before them. A friend of mine, to whom, the other day, I gave this advice, directed his servants to adopt it. The servant shook his head and said "he knew as well as Mr. Cartledge when his horses required water, and how much." The owner, in reply, told the servant that might be so, but he must allow his horses to drink as often as he did himself.

Long Cut Feed Better Than Short.

A correspondent of the *American Farmer* reasons as follows: "When a boy, we were taught to cut straw and hay for horses as short as possible, and the reason assigned was, that horses would eat it sooner and with greater avidity. In after life, we observed that it was not so good for the horses. Straw and hay cut one inch long, for animals that do not chew the cud, is far better than if one-fourth inch. When straw is cut very short, much of it goes into the stomach without being crushed. For this reason a great deal of it does not digest, though the juices of the stomach would have dissolved it had it been properly masticated. When a horse begins to eat, the salivary glands send a stream of saliva into the animal's mouth, to moisten and soften the feed, and to prepare it for more easy digestion. Hence it is impor-

tant that any piece of straw or hay should be masticated between the teeth, and the saliva thoroughly mingled with whatever is eaten before it is swallowed. As saliva is a powerful solvent, the organic structure of all feed should be broken up by the teeth and saliva and all the small fragments brought in contact with the liquid.

Clicking.

Many horses have the very unpleasant habit of striking the toes of the hind shoes, against the fore shoes. Most horsemen will agree that it is a fault belonging to some of the best as well as worst. It more frequently occurs with young horses, and they often click on the turf or soft ground, and not on the road. It arises from the too great activity or length of stride of the hind legs; the fore feet are unable to get out of the way in time; anything which detains them, such as a heavy soil, must assist the practice. The principal point to be remedied is the intolerable noise, from whence the evil derives its name, and this is often effected by making the hind shoes square at the toe, and leaving the toe of the crust somewhat projecting over the shoe, by which plan the crust receives the blow, instead of the shoe, and does not make any noise. It sometimes happens that from the repetition of these blows, the crust is worn so thin at the toe as to produce or threaten lameness, in which case the plan of shoeing mentioned must be desisted from, and we must put up with the noise to avoid the greater evil. When a square-toed shoe fails in preventing clicking, it will sometimes happen that a shoe pointed at the toe will succeed; which no doubt arises from the circumstance of the shoe having so small a surface to come in contact, it may therefore fail to strike the fore shoe, but may go within, or by side of it.

CORNS.—This is a red spot on the inner portion of the heel of the foot, causing lameness, and proceeds from a bruise from the shoe pressing upon the part—the shoes having shifted from their proper position, or never having been placed there. In general, the production of corns may be laid to the charge of the horse-shoer, and sometimes to the owner allowing the horse to go too long before the shoes are removed, or before the foot has grown from the shoes. Corns on the feet of a horse bear no resemblance to that well-known affection of the feet of man. Treatment.—Remove the corns by cutting them out; then apply a few drops of commercial sulphuric acid to the part. Shoe the horse sufficiently often to insure even bearing to the shoe upon the wall of the foot.

CAN A HORSE'S HOOF FEEL PAIN.—The general impression seems to be, that owing to the peculiar formation of a horse's hoof a nail driven into it in putting on the shoe causes no pain and is asserted by experienced veterinarians that a nail when driven into the wall of the hoof causes no pain, but if the nail is clinched on the top or side of the hoof with a hammer, it induces pain, and frequently lameness, arising from an inner irritation, caused by pounding the hoof. If this is the case, then some method should be applied whereby the nails on a horse's hoof may be clinched without pounding it with a hammer.

GOOD MEN MAKE GOOD HORSES.—A horse is never vicious or intractable without a direct cause. If a horse is restive or timorous, you may be sure that the defect is in his education. He has been treated either awkwardly or brutally. Commence the education of the horse at his birth, accustom him to the presence, voice and sight of man; speak and act gently; caress him; and do not startle him. All chastisement or cruelty confuses the animal and makes him wild. They are good men who make good horses.

In India when a horse can and will not draw, instead of whipping, spurring or burning him as is frequently the practice in more civilized countries, they quietly get a rope and tying it to one of the fore feet, one or two men take hold of it, and advancing a few paces ahead of the horse pull their best. No matter how stubborn the animal may be a few doses of such treatment effects a perfect cure.

Russia has 400 papers now, against only five, fifteen years ago.

NOTES OF TRAVEL IN SAN MATEO COUNTY.

What May be seen in 90 Miles Ride Down the Coast to Santa Cruz, via. Crystal Springs and Pescadero.

[Written for the PRESS.]

Having visited nearly all the prominent places of resort on the Pacific coast, I am willing to confess, that no other trip of the same number of miles has paid me as well, for sight-seeing and pleasure.

We left San Francisco via S. F. & S. J. R. R. at 8:10 A. M. and arrived at San Mateo at 9:10 A. M. the country city of "palatial residences" of retired bankers and merchants of your city. Here we were mounted upon a six-horse coach, of Messrs. Wellington & Son, and bring up at the Swanton House, Pescadero, at 3 P. M. the same day.

The Road.

The distance from San Francisco to San Mateo is 20 miles; time by cars, one hour. From San Mateo the stage road follows the beautiful cañon of the San Mateo creek, through the hills, four miles, to Crystal Springs, and from thence, over the Sierra Moreno spur of the Coast Range, to Half-moon Bay or Spanishtown. Nothing can exceed the exquisite beauty of the scenery and grandeur of the views along this part of the road. The Bay of San Francisco, the mountains and valleys of Alameda and Contra Costa, Mt. Diablo, the smiling valley of Santa Clara, the valley of San Andreas, and the lovely Cañada de Raymundo are seen on the eastward, and on the westward the delighted traveler looks down from the airy heights upon the blue Pacific, and the bold shores of San Mateo, with the distant mountains of Santa Cruz, the road winding along the sides of steep precipices hundreds of feet high, and affording at every turn, new and delightful views of the most pleasing scenery imaginable. From Spanishtown, 12 miles from San Mateo and 32 miles from San Francisco, the road runs through the rich farming country of San Mateo, and along the shores of the Pacific 18 miles to Pescadero, crossing in its way numerous mountain streams, and ascending and descending a number of bold hills, from which beautiful views of sea and land are obtained. The tourist can return daily to San Francisco by the evening train, and on Tuesdays, Wednesdays, and Saturdays, can take the stage for Santa Cruz, 36 miles further down the coast; fare, \$3; Wm. H. Bias, proprietor and driver, and a jolly good fellow in the bargain.

Pescadero.

This place contains about 300 inhabitants, and is situated in the center of a beautiful and productive little valley, sheltered by high picturesque hills, a short distance from the ocean, and offers unlimited attractions for the tourist and seeker after recreation and health. The mountain streams in the vicinity swarm with fish. The Salmon trout are found here in abundance; and specimens have been caught weighing 8 and 9 lbs. The forests which cover the surrounding mountains abound with game of every description; the Salmon trout, however, and other sea-fish afford the best sport to the angler, at the mouth of the stream on which Pescadero is located.

The Pebble Beach.

This place is famous for the beauty and brilliancy of the pebbles,—agates, cornelians, opals, emeralds, and other precious stones found there. Within the last five years two diamonds have been picked up on this beach, one valued at \$75, and the other at something over \$200. There is no other place of its kind to compare with it on this continent, as is acknowledged by Capt. Grenall, of the Pacific coast survey. The Shell Beach and the unrivalled Moss Beach are also among the attractions of Pescadero.

The vicinity abounds with delightful drives and picnic resorts, and the climate is just the happy medium between the chilly breezes of San Francisco and the dry heat of the interior valleys of the State, which is most desired and enjoyed by the invalid and pleasure seeker. The principal advantage it has over most other places of resort on this coast is,—it is available the year round, and only costs \$3.85 from San Francisco to get there, with first-class

hotel accommodations on arrival, at \$2 per day, at the Swanton House.

Steam Saw Mill.

Three and one-half miles northeast from Pescadero, is situated the steam saw, grist and shingle mill of B. Hayward. This combination mill is run by an engine of 16-horse power; from 8 to 12 men are employed, and from 5,000 to 8,000 feet of lumber, or 30,000 shingles are sawed by this little mill for a day's work. Mr. H., proprietor of this mill, is also the possessor of about 900 acres of hill and timber land, adjoining the mill, worth from \$10 to \$15 per acre. The valley land in this section is worth from \$100 to \$150 per acre; and this year the valley land here will average 90 bushels of oats, 75 to 80 bushels of barley, and 35 bushels of wheat to the acre. Of the latter cereal but little is raised here; oats being the principal product.

Pigeon Point "Light House."

Pigeon Point is situated 5½ miles south of Pescadero, and for years has been noted as a very dangerous point of rocks to the mariner. Five vessels have been known to go to pieces, at, or near this point since the occupation of California, by the U. S. Government; in consideration of which, Congress at its previous session—appropriated \$75,000, for the erection of a signal fog bell, and light house. P. F. Marston, Government superintendent of this work, is working some 20 men, on the lower and out-buildings, and expects to complete the same some time in January next. The fog bell was completed and put in operation, Sunday, Sept. 10th inst. The works, when finished, will be in charge of Capt. J. W. Patterson, who was first officer of the steam ship Hermann, on her trip to this coast via. the Straits of Magellan, in 1858.

Happening to be a passenger on board the Hermann, during the voyage, I can vouch for his ability as an officer, and a gentleman. The terrible night of Oct. 12th, 1858, and Capt. Patterson, will long be remembered by your correspondent, and I think by the whole 700 souls on board at the time.

The tower for this light house, is to be 100 ft. high, 28 ft. diameter at the base, and 8 ft. square; the whole structure is to be built of brick hard burnt. Geo. D. Nagle, of San Francisco, is the contractor for furnishing the latter; and judging from the scrutinizing eye of Supt. Marston, no poor brick, will find place in that light house; 500,000 bricks are to be used in its construction. The brickyards of Mr. Nagle are situated within a few miles, and some 20 men are now employed burning the same; several thousand dollars will undoubtedly be saved to the Government, by having the brick made so near.

New Years Island.

Another light house has been ordered, (for New Years Island), and its construction will follow the completion of the Pigeon Point light house.

Extensive Saw Mill Enterprise.

Seven miles south of Pigeon Point, on Garcia creek, is situated a steam saw mill, owned by Thos. Moore, H. Templeton, and Wm. Bolinger. To give an idea of their lumber interest, one has only to see their extensive flume five miles in length, built in a V-shape, for floating their lumber down, at the terminus of which a narrow-gauge railroad is being constructed, to be six miles long. When completed it will end at Pigeon Point wharf, where the lumber can be loaded on coast vessels, and dispatched to San Francisco and elsewhere. It is estimated that this road will cost about \$3,000 per mile. On to Santa Cruz in my next.

L. P. Mc.

NOT OF RESPECTABLE ORIGIN.—There are probably few if any affectations of pronunciations more silly than the habit which many have of using the words *ither* and *nither*. The origin of this pronunciation has lately been made a subject of especial philological investigation by Prof. Waldernon, who traces it to the Irish "pot-house." Certain Hibernian pot-house writers were told that their legitimate and historic *nayther*, must not be used in England, as it was an evidence of bad taste and provincialism. In their efforts to correct that error they blundered upon one equally as objectionable in the word *nither*, which by degrees crept into good society, mainly through the "church." As much, no doubt, as a half century ago, the attempt was made to introduce special emphasis upon the final *ed* in words of that termination in Bible reading, in many of the Protestant churches in New England.

AGRICULTURAL NOTES.

CALIFORNIA.

A SANTA CRUZ HOP GARDEN.—Austin Smith has a garden of twenty acres near the town of Watsonville, in Santa Cruz county, planted in hops, the estimated yield of which, for the season, will be about fifteen tons, and from which he is expected to realize a handsome profit, as there has been a partial failure of the crop in the East, and in several countries of Europe. California crops have an excellent reputation abroad, bringing the very highest prices in the market.

CANNED FRUIT.—The immense yield of fruit orchards this season, says the Nevada *National Gazette*, has turned the attention of citizens in all parts of the county to the canning of fruits, and in consequence the demand for cans has kept tinsmiths busily engaged in manufacturing to supply the demand. With fruit for the trouble of packing, and quart cans at \$1 per dozen, a large amount, which has hitherto been paid for imported articles in that line, will be saved, and better fruit provided for winter use.

RESULT OF WASTING STRAW.—Some of our farmers up the valley, says the *Antioch Ledger*, are drawing hay from San Ramon valley for winter use. Had the straw that would have accumulated during the three years past been spared the torch, this necessity would not have existed. Frugality and economy demand that hereafter this worse than useless squandering of feed be stopped. Farmers save your straw, and you will have no occasion to purchase hay.

CROPS IN BODEGA.—A correspondent of the Sonoma *Democrat*, from Bodega, writes as follows: "Late potato vines and corn have been damaged in some low-lying districts by the frost last week. The grape crop is a fortnight late, owing to the coolness of the season. We are again visited by exceedingly heavy fogs."

BANANAS FOR CALIFORNIA.—A gentleman who has traveled over much of Mexico thinks that the best place for getting young plantains and bananas for cultivation in California, would be San Blas, back of which, and not far distant, lies the valley of Tepic, where the winters are as cold as in most of our coast valleys, and where the hardiest varieties of the plantain are cultivated. The plantain is preferable to the banana in the districts visited by frost.

POHA BERRIES FROM THE TROPICS.—E. I. Hooper, in a communication to the *California Horticulturist*, mentions the exhibition at the Mechanics' Fair in this city of some pohá berries, "esteemed one of the greatest luxuries of the tropics, resembling the ground cherry, but as superior to it as the apple is to the crab. It is unsurpassed by any fruit for richness and delicacy of flavor for pies, jellies, jams, preserves, etc."

In Yolo and Solano counties, the farmers along the line of the railroad are summer-fallowing considerably.

BUTTE COUNTY—TALL CORN.—The Marysville *Appeal* has seen some corn grown in Linda bottom, near the Yuba river on the ranch of Mrs. Duffey. It is fourteen feet high, two full ears on the stalk, besides a "nubbin." From the ground to the first ear is seven and a half feet, and eight feet to the next ear. There are ninety acres in corn in the field from whence the sample—which is said to be a fair average—was taken. It is estimated that the whole field will yield 100 bushels per acre. Mr. Hopkins, the gentleman who rents the place, thinks this field of corn will be hard to beat in this State or elsewhere.

A FARMER'S CLUB.—The *Enterprise* urges the formation of a Farmer's Club at Chico. There ought to be at least one Farmer's Club in every County in the State.

FARMING VS. MINING—CALAVERAS.—The Mokelumne Hill *Chronicle* is jubilant over the improved prospects of that county, brought about, in a great measure, by the discovery that the soil of that county was productive agriculturally as well as in minerals. Public sentiment there has become agriculturally revolutionary. Great numbers are now profitably engaged in agricultural and horticultural pursuits, and the success in that direction has reacted on mining, and produced a radical change for the better in that department of industry.

KERN COUNTY CROPS.—The *Courier* says the wheat crop what is threshed, turns out better than was anticipated, and the yield is above the average. One farmer near Bakersfield gives his experience as follows:

One sack of Norway oats, sown and grown under very unfavorable circumstances, yielded forty-six sacks. Forty pounds of English 'Fluke' potatoes, planted on the 25th day of April, and dug two months afterwards, yielded two thousand pounds of tubers, of a large size and unsurpassed in quality; the same weight of Hungarian grass seed, sown the 15th of May, seemed to manifest an extraordinary adaptability to this climate and soil. It grew to the average height of five feet, and the heads were six inches long. He raised a small field of barley, and after it was taken off, replanted it with Indian corn, beans, watermelons, potatoes, etc., all of which are growing luxuriantly. He thinks the corn promises not less than sixty bushels per acre, and gives it as his opinion, if we had a no-fence law, or some means of freeing ourselves from the depredations and annoyance of the herds of wild cattle which now infest the valley, that section would be the most desirable farming region in the State.

CROPS IN PAJARO VALLEY.—The *Pajaronian* of Watsonville, recently visited the hop field of Mr. Austin Smith, about one and a half miles from town, on the San José road. Mr. Smith has twenty acres under cultivation, the estimated yield of which will be fifteen tons. The vines are literally loaded. There are but few leaves, and from a careful examination of the crop, it is believed to be the finest display of growing hops in the State. The hop crop this year will be a valuable one as there is a failure in Europe and America from some cause, hence Mr. Smith's crop this season will amply repay him for the thousands of dollars expended on his yard during the past three years. His drying house, containing an immense press, is fitted up in the best manner for preparing the crop for market. A glance from Mr. Smith's yard, which, seen from the road, seems to be one mass of large, rich looking hops, will convince the most skeptical of the adaptability of the soil and climate for this valuable and useful product.

GOOD YIELD.—On the 25th of May, says the Los Angeles *News* of the 16th inst., Jno. M. Greaves set out some sweet-potato plants on his place on Grasshopper street. He brought to our office yesterday, a potato weighing eight pounds. The entire yield would average four pounds. An acre and a half of corn on the same premises has attained the average height of sixteen feet, with from two to eight ears to the stock. This corn has been cultivated entirely with the hoe. The above examples show how abundantly the soil of our valley can be made to yield under careful culture.

NEVADA.

TOO MANY CATTLE IN NEVADA.—A telegraphic dispatch from Winnemucca, of the 19th instant, says:—Nineteen thousand head of sheep, owned by Haas & Williams, from Colusa county, Cal., passed through this place to-day, en route to Battle Mountain, Nevada; also about 600 head of cattle, belonging to Hildreth, en route to Iron Point, Nevada. It is estimated that there are nearly 200,000 head of cattle and over 175,000 head of sheep in this county, and large bands are daily arriving. As the season has been very dry here, and the country is overrun with stock, it is feared many will perish should the winter prove severe.

OREGON.

PROSPEROUS TIMES.—The average yield of wheat in the Willamette valley this year, is about 30 bushels to the acre, and the total yield will be about one-third more than it was last year. The spring-sown wheat has not been as productive as during some former years.

The present season will be one of unusual prosperity for the farmers of Oregon, who have heretofore sold their wheat for from 50 to 60 cents per bushel; while this year they will realize an average of \$1 or more per bushel; oats that formerly sold for 25 cents are now selling for 75; wool that in previous years sold for 15 and 20 cents, is now selling at from 30 to 40 cents. This advance in the products of the farm will give an immense impetus to farming in that State, and the breadth of land sown will be still largely increased the coming season. Much advantage will also be derived from the establishment of direct trade between the Columbia River and the wheat markets abroad. Some idea of the extent to which wheat growing may be carried in Oregon, with the world for a market, may

be inferred from the fact that the Willamette valley alone is capable of producing 100,000,000 of bushels per annum. A splendid future is in early store for Oregon. We subjoin our usual summary from this State:

DOUGLAS COUNTY—GOOD YIELD.—The *Plaineader* says, that S. C. Moore, who resides on the South Umpqua, five miles south of Roseburg, this year cut a field of wheat, containing 18 acres, which yielded 45 bushels to the acre. The land and grain were both accurately measured. The waste caused by some of the wheat being down, was estimated at five bushels to the acre. The *Plaineader* thinks this a good crop, taking into consideration the fact that the season has not been a very favorable one.

STILL BETTER.—Mr. Bleachleg, who lives about 10 miles below Eugene City, says the *Journal*, has harvested this season an average of over 50 bushels of wheat to the acre, and from 4 acres a yield of over 60 bushels to the acre.

Aster Marks, of this county has recently received from California 30 head of fine sheep.

THIRTY-NINE FROM ONE.—W. W. Weaver, of Myrtle Creek, has thrashed 692½ bushels of wheat for 17½ sown—Thirty-nine from one.

WHEAT AND FLOUR.—The Walla Walla market, according to the Portland *Herald*, is glutted with flour, despite the large quantities which are being transported to Portland for shipment abroad. The Navigation Co.'s warehouse is almost filled with wheat awaiting shipment, as there are no vessels in port at present awaiting a charter to Europe. Flour is also coming in immense quantities, principally from Oregon City and Walla Walla, but the principal portion of this product is shipped to San Francisco.

THE LYNN COUNTY FAIR will be held during the last week in this month.

ANOTHER SPECIAL PREMIUM.—The Willamette *Farmer* announces another special premium offered by Hermann & Hirsch, of Salem, of \$5 for the best 50 pounds of Oregon dried apples, of the crop of 1871.

DURHAM STOCK.—The Portland *Bulletin* chronicles the arrival at that city from San Francisco of some of the finest stock ever brought into the United States. The list embraces four head of thoroughbred Durham cattle, purchased by Joseph Teal, of Portland, from Col. Colman Younger, of San José, California.

RAIN.—Portland was visited by a fine shower of rain on Saturday last.

The Roseburg *Ensign* has the following: Potatoes are scarce in this market; the crop was light this year. The fruit crop is abundant in this valley.

The past has been the driest summer for many years. The grain market has not been established yet. Five thousand acres of timber are on fire in the mountains, in the neighborhood of Brewster valley, Coos County.

POLK COUNTY.—The *Farmer* learns from a citizen of Dallas that the final result shows the yield of wheat per acre to be much larger in Polk county than was expected before harvest. The straw was short, but the grain headed well. The oat crop is light. The *Farmer* supposes the results have been about the same in most of the grain growing regions of the State.

JACKSON COUNTY.—John Skidmore is making salt in considerable quantity. The Jacksonville *Sentinel* learns from Southern Oregon that the county around Langels' Valley is being fast settled on, and that it is estimated that there are over 6,000 head of stock in the Valley and immediate vicinity. Grass is abundant, and a large amount of hay has been stored up for future emergencies.

OREGON FLOUR IN RIO JANIERO.—There were 3,438 bushels of Oregon flour in the Rio Janiero market on the 25th of July last without sales.

WASHINGTON.

SOME sheep-growers from Solano county (Cal.) were recently at Puget Sound looking for a place to establish a farm for 10,000 sheep.

DURING the month of August the land disposed of at the Vancouver Land Office amounted to 7,229 acres.

COLORADO.

The Sixth Annual Industrial Fair of Colorado was opened at Denver, on Tuesday last, to be continued until to-day (Saturday), and from the notes of preparations which we have gathered from the papers published in that county we should judge the exhibition must have far eclipsed any one which has preceded it. Several eastern papers were to have had correspondents. It was intended the mineral exhibit

should form a prominent feature at this exhibition. Premiums were to have been awarded to competing mineral lodes, with the view of collecting, such exhibits and information as would tend to throw light upon the locality of the best mineral; those which were opened in the manner best calculated to afford the most perfect security to workmen, and to obtain the ore at the least expense.

It is not enough to "compare ourselves among ourselves," says the *Tribune*, but let us show our mines, our farms, our horses, our cattle, our grain, our fruits, our vegetables, our home manufactures and mechanical skill, (and shall we say our railroads?) by the side of those of other counties of our Territory, and, so far as practicable, in competition with these of any and every other country. "Open to all the world," is the spirit in which to organize a Colorado Industrial Exhibition.

FRUITS AND FLOWERS.—The editor of the Canton *Post* has been taking notes in the vicinity of Boulder, bearing upon the important question of the adaptabilities of this section as a fruit growing region. He finds that small fruits do reasonably well, as might have been inferred from the fact that wild currants, gooseberries, strawberries and raspberries, grow in the greatest profusion among hills and along streams.

It is thought the grape will flourish to some extent there; but the fruitage cannot always be relied upon, on account of the late and early frosts, severe hailstorms, etc.

The experiment so far with apples and peaches has been quite encouraging, for such an elevated locality. Care has, however, to be taken in wetting and mulching the ground around the root of the trees to prevent the too early appearance of blossoms.

Shrubbery and flowers are also found to do well, and may be made to adorn and beautify the gardens and houses. One gentleman, Mr. M. G. Smith, who has a beautiful little garden on Boulder Creek, cultivates 40 different varieties of roses. He has also 100 peach trees, besides other fruits, large and small.

Montana.

THE TERRITORIAL FAIR.—The Second Annual Fair of the Montana Agricultural Mineral and Mechanical Association will commence on Monday next. Liberal premiums have been offered for stock and all descriptions of farm products, handy work, mineral exhibitions, etc. The managers of the Association have made all reasonable preparations to make the exhibit one of which the people of the Territory will have reasons to feel proud. The season there has been a prosperous one and we have no doubt the citizens will freely respond, and make a display fully commensurate with the preparations made, and programme laid out.

It is a most gratifying evidence of the future prosperity of our mining regions, every where, that a greatly increased attention is being paid, within their borders, to agricultural matters. Agriculture and mining should go hand in hand. The grazing and farming interests of Montana have assumed very important proportions, and are so rapidly increasing, that they bid fair to prove of equal value to the territory as her mines.

MONTANA'S RESOURCES, ETC.—The extraordinary vegetable products of Montana, says the Montana *Herald* of September 4th, are becoming the subject of comment the country over. The perfection of growth of all the esculent species, as well as the cereal grains, together with their enormous average yield throughout the Territory, are attracting the attention of agriculturists everywhere. Of the large number of highly productive valleys, which are the boast and pride of Montana, no one of them is more rapidly becoming subdued to the needs of the husbandman than the valley of the Prickly Pear. Helena to-day looks down upon stubble fields from which an average of fifty bushels of wheat to the acre has been harvested the present year; upon vegetable ranches that have produced this season thousands of bushels of potatoes, turnips, onions, and their kindred roots, which, for size and quality, are not excelled by similar products of the most favored garden spots of the earth elsewhere. Agriculture and horticulture in Montana are yet in their infancy. The future of the Territory in this respect is promising indeed, and the incentives to become possessors of land and cultivators of the soil are adapting themselves to a people sensible of the superior advantages surrounding them, and the ample rewards which their energy and intelligent labor are certain to realize.

NOTICES OF RECENT PATENTS.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

HARVESTER.—James H. Adamson, Auburn, South Australia, assignor to Rev. Wm. Taylor, Alameda, Cal. This invention relates to an improvement in machines for reaping, dressing, and cleaning grain, and consists of a frame mounted upon suitable wheels, and having a peculiarly shaped comb attached to the front so that it reaps or pulls off the heads of the grain and carries them with the assistance of a set of revolving beaters, into a cylindrical box or case, which extends across the front of the machine just behind the comb and within which the beaters revolve rapidly. These beaters loosen the grain from the husk, by their rapid blows, and, at the same time produce a blast of air which carries the whole up an inclined funnel or chute. The rear end of this funnel is bent sharply downward, and is provided with a series of stout wires below its mouth, between which the grain falls into a receptacle below. The chaff and light straw, guided and supported by the wires, are carried into the large end of a cone, the small end of which opens toward the rear of the machine. This cone is suitably suspended, so that as the front or reaper part of the machine is elevated or depressed, the cone will, to a great extent, retain its relative position with the other parts of the machine and the ground. The interior of the cone is provided with annular ribs, and also with longitudinal vanes, the former to prevent the straw from sliding endwise and the latter to lift it up as the cone is slowly revolved, and drop it through the current of air which passes through the cone. An adjustable screen at the rear end of the cone prevents the wind from blowing the chaff back. The front of the machine is supported upon a steering wheel operated by a lever, and may be elevated or depressed to suit the crop. The comb bar is so connected with the beater shaft that it and the comb can be moved about the shaft, and by means of a sort of parallel motion the front of the comb is held so that the grain will not be lost in descending hills or in lowering the front of the machine.

IMPROVED HAY PRESS.—Oscar Bossee, Milbrae, San Mateo Co., Cal. The object of this invention is to provide an improvement in upright hay presses, by which a greater capacity for work is attained with the same force, and it consists in making the chamber higher than the space necessary for the hay. The follower is at the bottom, and an upper rack is brought over the hay when the chamber is full, and secured, the follower being moved up towards it by suitable mechanism, till the ball is sufficiently compressed. The two racks are thus clamped together and the whole is raised to the upper part of the chamber to be tied, while another follower can be placed at the bottom and the work of filling the press can go on again. After the bales are tied, the discharge door can be opened and the bale rolled out either upon a wagon or upon a pile, all lifting being avoided in either case; meanwhile, the follower is removed ready to take the place of the one already in, and the pressing mechanism again connected, so that there is very little delay at any time.

BLOTTING RULER No. 1.—Louis Feusier, Virginia City, Nev. This invention relates to a clasp for paper rulers, which is intended to hold a blotting pad in the proper position to dry ink lines after they have been ruled, and thus prevent a further use of the ruler from blotting or spreading the ink. It consists of a thin piece of sheet metal cut and bent to fit the ruler on the underside, and hold a narrow piece of blotting pad, which is inserted into properly formed grooves in the clasp.

BLOTTING RULER No. 2.—Louis Feusier, Virginia City, Nev. This invention also relates to a paper ruler with a blotting pad, and is of simpler construction than the one first mentioned, which uses a metal clasp. In this ruler a longitudinal slot is made on each edge of the ruler, and a piece of blotting pad is bent into a shape

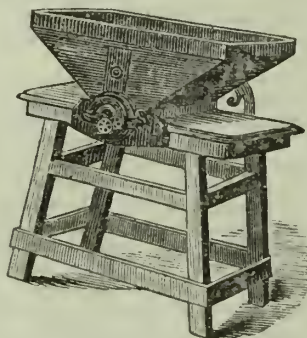
to cover the lower face, and its turned over edges enter the slots so that it is secured to the ruler.

TUBULAR BOILER.—Oliver Hyde, Oakland, Cal. The object of this invention is to provide certain improvements in that class of steam boilers through which vertical flues or heat passages extend upward from the fire-place, and it consists in surrounding each of these flues with a shell or tube of larger diameter than the flue, so as to form a jacket about it. The outside tubes are open at the bottom to admit water freely into the space around the flue, and are open at the top to permit the escape of the steam which forms quickly and creates a strong circulation and ensures the rapid heating of all the water in the boiler.

The "Challenge" Feed Mill.

Feed that is ground is always more beneficial to animals than that which is fed whole, and it is said that at least 33 per cent. is gained by using the former. Grain gathered after it has become ripe and all the moisture has ceased to circulate, then allowed to become further hardened and dried by age, cannot but be benefitted by some grinding process which softens and renders it easy of mastication. No wonder horses teeth wear out since they are forced to uses which will wear down the hardness of stone. They were only intended to crush the juicy herbage of the field.

Any apparatus which will secure all the



The "Challenge" Feed Mill.

nutritious properties of the grain, and at the same time render it easy of mastication, is to be desired. The Challenge mill is specially adapted for this purpose, as well as for grinding other materials. The manufactory of these mills is at Batavia, Ill., and four sizes are made. There are three varieties of what is called the medium mill, costing respectively, \$75, \$85, and \$90. The grinding capacity and finish of these mills are the same; the difference in price does not indicate superior quality, but is caused merely by the style of the working gear. The Warehouse mill is capable of grinding feed in large quantities and the humidity of the grain makes no difference.

By the use of these machines the farmer is independent of the mills, being able to grind his feed at home with such power as he can command, either horse, wind, water or steam. By the use of a sieve all the meal required for family use can also be ground. Their portability and compactness render them unusually convenient, and the capacity is very large in proportion to the size. The principal advantage of these mills, over any similar appliances, are: cheapness of operation; no heating of grain; amount ground with one set of grinders; facility of adjustment to any kind of power; simplicity of construction, and cheapness in cost. They are adapted to grinding malt, rice, salt, flax-seed, sugar, pepper, spices, ginger, and roots of all kinds. The company guarantee that if adjusted to a one-horse power, any of these mills will grind five bushels of grain per hour, and five more bushels for each additional horse power up to four. They also manufacture power mills for breaking, cleaning and grinding cotton seed; hand mills for family use, and hand and tread powers of all capacities. The accompanying engraving is a representation of the Warehouse mill. These mills are for sale by Hawley & Co., corner California and Battery streets, and dealers generally, here and throughout the country.

American Institute Fair, New York City.

BY OUR NEW YORK EDITOR.

Before this reaches the eyes of our readers the great Annual Fair of the American Institute will be open to the public. As in many respects this is one of the most important exhibitions in the Eastern States, we have taken some extra trouble to obtain beforehand some facts in regard to the scope of, the design and the method in which it has been carried out.

The Building

in which the fair is held is the so-called 3d Avenue Skating Rink, at 63d street and 3d Avenue. It is an immense structure covering nearly a whole block and extending from 3d almost to 2d Avenue. It was built some years since for the purpose which its name indicates. We don't know as it can be better described than by saying that it looks like a three acre lot with an arched roof turned over it. It has about 120,000 square feet of floor surface available for the purposes of the Fair.

The Arrangements this Year

are far ahead of those of last season. We notice with much pleasure that the crowning glory of American industry is not supposed to be a soda water fountain. At least the soda water fountain has not the most honorable place in the whole Fair this year. In the center of the main floor is placed the music stand and near the front entrance is a very fine iron fountain. These two features are of such a character that the departments on the main floor can be symmetrically arranged around them.

What Is To Be.

It will be one of the great objects with the Board of Managers, this year, to make the Fair a source of instruction. In other words we have the school-master in the character of showman. For our life we can't see why he should not take the part if he can do successful teaching that way. Now let us see what he is to teach. As far as practicable, industrial processes are to be exhibited *actually going on*. Among these there are the following:—

Milling of grain. As they can't raise the wheat at the Fair, they have to begin with the grain, but they put it through all the other manipulations, grinding, bolting, making into bread, baking and eating. Planing, sawing and re-sawing machines will be at work. Carpet weaving, blacksmithing, forging, carding and burring, will all be shown. A great power press will be set up and editions of the "Mirror of Typography" and the "Aldine" will be run off—showing people just how the most splendid printing, that the world has seen, is done. The whole of the lithographers, art will be shown in operation, from the preparation of the stone to the printing of a chromo.

Stone sawing, diamond drills, stone breakers and crushers, are also on the list; so also are leather dressing, ornamental carving, glass engraving and blowing, making of gimps, fringes and tassels, washing, fluting and ironing.

Now if a man, woman, girl or boy can go through the Fair and not learn something, we think their capacity for imbibing knowledge, is limited, to say the least. But we must not forget the last on our list, which are working models of engines, locomotives, marine, etc., engraving, and rock cutting by means of the sand blast of which so much has been said by the scientific lights, during the last six months.

Steam to the extent of 200-horse power will be provided, which should be amply sufficient to give every engine dry steam. Among the boilers we notice one of Root's, and one from the Allen Engine Works. Three or four large engines are already partly up.

Why Some Refuse to Exhibit.

The pump department is pretty well represented, though many of our best makers will not exhibit. This is much too often the case. The best men do not come forward and compete, because they don't like to explain the details and proportions of their pumps for others to take advantage of, and if they don't make all the little refinements public, they stand no better chance than others for the reason that too often, the trials have not been exhaustive in character. There should be tests which

should demonstrate the actual economy of each machine. The dollars and cents value of the work done by each pump should be ascertained, which together with the cost of the same, should be the basis upon which to grant the prizes.

In England the Royal Agricultural Society has been carrying on many competitive trials in this way, and has given us some of the most exhaustive tests that have ever been put on record. These faults—in the method, of testing articles for competition have become so great that

An Entirely New Plan of Awards

Has been adopted. Only one prize is to be given—the grand gold medal of honor. But each machine exhibited is to have a thorough trial and the exhibitor has a report of the same. This will probably give all the advantages of the old system while avoiding its defects.

California Exhibitors.

Arrangements have been made, we believe, to extend the time for entries from the Pacific slope in order to give time for California exhibitors to bring their goods on after the closing of the Mechanic's Institute Fair, at San Francisco. This opportunity should not be neglected, as it is exceedingly important that all the Pacific slope should be represented. People here are much too prone to forget that the extreme Western States are anything more than mineral in their production. Soon we will say a word or two about the opening scenes and incidents.

Agricultural Lands in Nevada.

The Reno Journal has discovered that the sage-brush lands of Nevada have all the elements of productiveness, and invites all who doubt the assertion to visit the many farms in its valleys, and particularly on the Truckee Meadows. "These farms," says the Journal, "are rapidly increasing in numbers and area. Lands which but a few months ago were covered with a heavy growth of sagebrush, are at this time magnificent and luxurious fields of 'clover blooms;' and while they are beautiful to look upon, they are also yielding a princely income to the owners of the soil. The raising of clover, timothy and alfalfa hay has been proven a success in every particular by numbers of our most enterprising farmers. The cereals yield quite as much per acre as the richest California soil gives, while the vegetables raised in Nevada are far superior in every respect to those grown in California; all this has been demonstrated time and again during the last year or two. Again, ornamental shade trees of nearly every kind in common use thrive well, and while fruit trees do not do as well as in our sister State over the mountains, the raising of fruit is not a failure in Nevada; and the raising of berries, such as the gooseberry, currant, raspberry, and blackberry, is a success wherever the same has been engaged in." All this is encouraging. The Journal adds: To-day our hills and valleys, covered with rich native bunch grass, are feeding the "lean kine" of California by the thousands. With all the beautiful, well-cultivated and remunerative farms located in our State, only a few acres, comparatively speaking, of the truly valuable agricultural and grazing lands have been secured, and we sincerely believe the economical, industrious farmer or stock raiser cannot do better than to secure a home in some one of the beautiful valleys of Nevada. One very important fact which is greatly to our advantage and to the interests of those seeking a permanent home is, that our agricultural lands are not in immense tracts, consequently have never been and never will be monopolized by 'land-grabbers' as in California, and from the great emigration to our State the past year we believe this fact is being appreciated by those wanting permanent homes."

THE REASON WHY.—The chief reason why young men don't like farming, is because the surroundings of their homes are so generally neglected. There is little about this that is inviting or pleasant. Fruit, flowers, ornamented grounds, shady retreats, etc., have a wonderful effect in attracting a young man to his home. The boys grown upon a well-ordered farm have much less inclination to desert it, than those on a neglected and ill-arranged one. Boys soon learn to dislike a worn out field or farm. Farmers, if you would keep your boys at home remember these things. Make your home and farm beautiful and attractive according to your means; for in no other way can you so effectually prevent your boys from seeking the city and tramping its streets in search of employment, with empty pockets, and too often with a degree of discouragement that ends in moral ruin.

USEFUL INFORMATION.

Snakes in Ireland.

Once a Week corrects the common notion that there are not snakes in Ireland, as follows:

"A correspondent informs us that not only do serpents and frogs manage to exist in Ireland, but that they absolutely swarm, the latter especially, in the country districts—notably in the county of Dublin and the Queen's county. But as the snakes are there, and old authorities maintain that Ireland was free from them until comparatively recent times, the fact remains that somebody must have imported them. One account gives it out that they were first propagated from spawn, introduced as an experiment, in 1686, by a Fellow of Trinity College, Dublin; another, that a gentleman imported a number of vipers from England into Wexford, about the year 1797, but they died immediately after. In the summer of 1831, however, a gentleman, by the way of experiment, brought a few pairs of the common snake from Scotland, and placed them in a plantation at Milecross, near Newtonards, and the readiness with which they multiplied was more alarming than pleasant. The late Marquis of W—d, well known in his day for his strange freaks, is said to have tried the same experiment on his own estate, but with no success."

SUN LIGHT THROUGH THE BLINDS.—Who is there that has not often admired the beautiful little circular forms which sunlight takes when shining through the blinds or any other elongated aperture, upon opposite walls. Some asks the *Her-aid of Health* why it is that the rays of light take those circular forms rather than forms corresponding to the shape of the opening through which they pass. That journal replies as follows:

All that can be said on this point is that such is the fact. Light thrown off by a luminous body assumes a conical or cylindrical form, according to the conditions under which it appears to the observer. All pencils of light are primarily diverged from every point of a luminous body throwing offlight in a conical stream; converging rays and parallel rays are generally regarded as having a cylindrical shape.

WHAT CLOVES ARE.—Cloves are the unopened flower of a small evergreen tree that resembles in appearance the laurel or bay. It is a native of Molucca, or Spice Islands, but has been carried to all the warmer parts of the world, and is now cultivated in the tropical regions of America. The flowers are small in size, and grow in large numbers, in clusters to the very ends of the branches. The cloves we use are the flowers before they are opened, and whilst they are still green. After being gathered, they are smoked by a wood fire, and then dried in the sun. Each clove consists of two parts of a round head, which are the four petals or leaves of the flower rolled up, inclosing a small number of stalks or filaments; the other part of the clove is terminated with four points, and is in fact, the flower cap of the unripe seed vessel. All these parts may be distinctly seen if a few cloves are soaked for a short time in hot water, when the leaves of the flower soften and readily unroll.

CAN NOT SPEAK FOR CHOKING.—When I rise to speak, I am so embarrassed my heart seem to rise in my throat and choke me. It is not for the want of knowledge of my subject or from the loss of words. What is the trouble and what the remedy?

Ans. If you use coffee and tobacco, their effect is to induce a rush of blood to the head under excitement. Embarrassment can be overcome by practice. You should read in public, and after awhile you can speak your own thoughts. Some ministers are, for many years, afflicted in the same way, but by writing and reading their discourses, in whole or in part, they finally overcome the embarrassment.—*Her-aid of Health.*

AN ARTIFICIAL WHIRLWIND.—The fact that whirlwinds are caused by upward currents of heated air, was demonstrated in the town of Queensburg, N. Y. in the following manner:—A farmer having occasion to burn a yellow pine fallow of some 20 acres, fearing that the fire might spread into the adjacent timber, ignited the fallow in several places on the edge, after taking the precaution of cleaning off the brush

from a strip surrounding it. The flames rushing toward the centre from every direction, the air and smoke soon assumed a rotary motion, which increased in intensity. This whirlwind—for such it was—after becoming fairly formed, moved with wonderful velocity on its axis, tearing up small trees by the roots and lifting them into the air, stripping the branches from some that adhered too firmly to the ground, and fairly wringing the bark from others. It was accompanied by a noise resembling thunder, and lasted from five to ten minutes, but did not pass the bounds of the fallow, although it swayed back and forth across the field of fire several times.

How Scientific Men Work.

It is said when an eminent foreign *savant* once called on Dr. Wollaston, desiring to be shown over his laboratories, in which science had been enriched by so many important discoveries, the doctor led him into a little study, pointed to a table on which was an old teatray containing a few watch-glasses, test papers, a small balance, and a blowpipe, and said: "There is all the laboratory I have." Now, how was this possible? How could this meagre apparatus, which a schoolboy would find insufficient, serve to suggest and establish some of the highest and most fundamental truths of chemistry? Does not the explanation at once suggest itself, that the true field in which the leader of scientific thought works is his own mind? A great man uses the things which he sees to suggest to him ideal existences, and in his capacity of creating such as are consistent with all the known facts of the universe; his fame and distinction are grounded. Nothing could be farther from the truth, than to suppose that science accords with Mr. Gradgrind's demand for "facts, facts, nothing but facts". On the contrary, Prof. Tyndall long ago defined science as "the art of seeing the invisible," and, in a recent brilliant lecture, has happily shown that its progress depends largely on the fullest possible use of the imagination.

How to Clear a Discharge Pipe.

It is not unusual to find the discharge pipe from the sink stopped, in consequence of the carelessness of a servant. In such a case, especially in the city the plumber has to be called in, who applies his air pump, and the clearance is effected. But plumbers are not always men of their word—in a recent instance we were compelled to wait two days before the plumber made his appearance. In consequence of this plumber's delay we set to work to study an air pump that might answer for the occasion, and one that would always be on hand. Here is the result and it works perfectly: Take a straight poker, or stick, and wrap one end with a wet cloth, holding the other end in the hand for safety, and use it as a piston in the pipe. Work it up and down a few times, and the clearance is effected.

THE CARAT.—WHAT IT IS.—The carat is an imaginary weight, that expresses the fineness of gold, or the proportion of pure gold in a mass of metal; thus, an ounce of gold is divided into twenty-four carats, and gold twenty-two carats fine is gold of which twenty-two parts out of twenty-four are pure, the other two parts being silver, copper or other metals. The weight of four grains, used by the jeweler in weighing precious stones and pearls, is sometimes called diamond weight—the carat consisting of four nominal grains, a little lighter than four grains troy; seventy-four and one-sixteenth carat grains being equal to seventy-two grains troy. The term or weight carat derives its name from a bean, the fruit of an Abyssinian tree called *kuara*. This bean, from the time of its being gathered, varies very little in weight and seems to have been from a very remote period, used as a weight for gold in Africa. In India also the bean is used as a weight for gems and pearls.

PHARAOH'S SERPENTS.—These, once so largely popular toys, have been almost entirely abandoned, owing to the poisonous character of their constituents and of their fumes. Dr. Puscher now announces that a mixture of 2 parts of bichromate of potassa, 1 part of nitrate of potassa and 3 parts of white sugar will produce the effect of the serpents without the attendant inconveniences. He recommends the mixture to be done up in paper or tin foil cones, as the original "serpents" were; and also the addition of some balsam of Peru to perfume it.

GOOD HEALTH.

Remedy for Chronic Diarrhoea.

The following remedy for chronic diarrhoea is from a medical work by Dr. Fancher:

Take two pounds of the bark of the root of blackberry; add a suitable quantity of water; boil for two hours, then pour off the liquid; then add more water; continue to boil and pour off till all the strength is extracted; then strain, and add all boilings together; simmer to two quarts; strain; add four pounds of loaf sugar, and when cold, add half a pint of the best French brandy. Dose, a tablespoonful three times a day, fasting. If it does not arrest the disease in a few days, gradually increase the dose as the stomach can bear.

The author says it will effect a cure when every other means fail.

Another and simpler remedy is as follows:

Put a tablespoonful of wheat flour in a tumbler of water; beat until it foams, and drink immediately. If the patient is thirsty more water may be added. It should be taken four times a day before meal times, and on going to bed.

PHYSICIANS AS TEACHERS.—Mrs. Julia C. Hill, who recently delivered the annual address before the Oregon and Washington Health Reform Association, remarked as follows on the duties of physicians:—"Permit me to say a word in regard to the duties of physicians. While the duty of curing the sick is justly regarded as of great importance, it has always monopolized too great a share of the physician's attention. The duty of teaching people how to live correctly, so that sickness will not be necessary, should be considered by every physician as paramount to any other duty. Physicians should also be qualified to instruct the people in regard to nursing the sick. In many cases, as much depends on good nursing as on the skill of the physician, and there are but few persons who properly understand the art of nursing the sick. Hence, to know and to teach how to nurse the sick, becomes one of the most important duties of the physician."

BUTTER AND WORMS.—There is no doubt that the larvae of the various worms which infest the alimentary canal of children, and frequently, too, of adults, are taken in with the food. Greasy substances are apt to abound with them. In a late German medical journal, a Dr. Huber relates many experiments he has made on this subject, and he comes to the conclusion that no article used by man as food, especially during childhood, is so prolific a cause of intestinal worms as butter. The use of butter serves also for the introduction of insects, as well as worms; and as American children seldom eat bread without a thick coating of butter, the general presence of intestinal worms need not be wondered at.

AN INDICTMENT AGAINST ALCOHOL AND TOBACCO.—The report of the British Factory Inspector, contains a statement made by the certifying surgeon at Bolton-le-Moors, that the children of the mill population are year by year getting smaller, and physically less capable of doing their work. He attributes this partly to their being the children of intemperate parents, partly to their being brought up on tea and coffee, instead of more substantial food, and partly to the circumstance that many young children, of about 12 years old, begin to smoke, acquiring the habit from their fathers, and possibly from their mothers.

MEDICINAL PROPERTIES OF COFFEE.—There are many medicinal virtues in coffee. When taken in moderation it is a gentle stimulus to the digestive organs. It relieves some forms of headache. It is excellent when one is fatigued or exhausted.

Very strong coffee will cure drunkenness. Many fashionable bar-rooms keep it made for that purpose. It is ominously useful to cure the habitual drinker, or those who wish to cure themselves of the habit of using intoxicating liquors. It will keep any one awake, and, therefore, should not be drank last before going to bed.

DRINK WATER IN THE MORNING.—If we would establish the habit of drinking water freely in the morning, soon after arising, commencing with small quantities, increasing gradually as we learn to relish it, until the chief portion taken during the day is before breakfast, it will promote the health to a much greater extent than it ordinarily does, eradicate disease from the system, and become a most decided luxury in time.

FOR CHOLERA AND CHOLERA MORBUS.—A correspondent of the St. Louis *Republican* furnishes the following hint which is timely, and may be worthy of trial:—"Make a weak ley from good wood ashes, about as strong as common tea. Drink after each meal about half a wine glass full of the above water, which I guarantee will prove a complete preventive against cholera morbus or dyspepsia. This can be given to an infant without injury. Whenever the bowels become lax, or unchanged, ley water should be freely used. In the year 1819 I passed up the Missouri river on the steamer Robert Campbell, William Eads, Captain. Two men died out of the cabin from 4 o'clock in the afternoon to 10 o'clock next morning. I consulted with Capt. Eads, and advised that he should put wood ashes in the drinking water, so that all the passengers would have a drink of it. He did so. This happened at Wakadaw Prairie. He had not another sick or complaining passenger from there to Council Bluffs, and I have conversed with him frequently since, and he told me he had always adopted that plan, and never had any sickness on his boat during the California emigration of that year. This simple medicine is in the reach of every body. When made and put in bottles it will last good for a year."

If you wish to have a healthy stomach do not wear a belt or any other thing in the form of clothing tight around your waist. Dyspepsia with girls and women is often caused by reason of tightness of clothing over the stomach. With men it is often caused by the high waistband on their pantaloons or drawers, worn tight about the body over the pit of the stomach. Let all your clothing be thoroughly loose at that point. Bad as tight clothing is on any part of the body, there is no place where it can be more productive of disease than at, or about, or over the stomach. The stomach needs plenty of room to act. Do not press it from without. If you do it will shrink to get away from the pressure. A great many persons have dyspepsia because they have contracted the stomach from without. Not having space enough in which to work healthy, it becomes so shriveled up that it is not large enough to retain what food the body needs for the maintenance of strength and health.

TO REMOVE WARTS AND CORNS.—*Home and Health* contains the following:—"Warts are not only very troublesome, but disfigure the hands. Our readers will thank us for calling their attention to the following perfect cure, even of the largest, without leaving a scar. It has been tested by the writer: "Take a small piece of raw beef, steep it all night in vinegar, cut as much from it as will cover the wart, and tie it on, or, if the excrescence is on the forehead, fasten it on with strips of plaster. It may be removed during the day and put on every night. In a fortnight the wart will die and peel off." The same prescription will cure corns.

A CURIOUS MEDICAL EXPERIMENT.—In Russia, not long since, it is said, some murderers were placed, without knowing it, in four beds where four persons had died of the cholera. They did not take the disease. They were then told that they were to sleep in beds where some persons had died of malignant cholera; but the beds were, in fact, new, and had not been used at all. Nevertheless, three of them died of the disease within four hours.

COLORADO FOR ASTHMATICS.—The last number of the *Medical and Surgical Reporter* mentions the case of a citizen of Detroit, who had for thirty years suffered intensely from asthma, recently migrating to Colorado, where he soon experienced a decided relief, and, after a stay of three or four months, found himself entirely cured. He regards the pure, rarified atmosphere of that elevated, non-malarious region as a positive antidote for asthma in all its forms.

GENERAL PREVALENCE OF CANCER.—Dr. Bliss, of Washington City, estimates the number of cures of cancer now under treatment in the United States is 100,000, with an average number of 6,000 deaths per week.

WATERMELONS are very injurious for debilitated and nervous people, but good for persons of full habits and torpid livers.

Those who use a plain, unstimulating diet, have little thirst.

SLEEP will do much to cure irritability of temper, peevishness and uneasiness generally. It will cure headache and neuralgia and brace up and make strong a weary body.



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SAN FRANCISCO:

Saturday, Sept. 23, 1871.

Our Weekly Crop.

Among the pictorial adornments which we have added to our farm this week is a beautiful view of Seal Rock, as seen from the balcony of the Cliff House. While our friends are there enjoying the fresh sea breezes, and listening to the barking of the seals, we will make a brief visit to the exhibition of the American Pomological Society at Richmond, Va., where we find a superb collection from some twenty different States, among which California occupies a prominent, if not the first position. Passing into our library of Mechanical and Scientific Progress, we find some interesting correspondence, glean a few Hints for the Farm and read a chapter for the Horseman.

We next make our accustomed tour in search of Agricultural Notes; after which we examine some late California Inventions, and witness the operation of the Challenge Mill, which we have just set up to grind the feed for our stock.

And here comes our New York Editor, with some interesting information about the approaching American Institute Fair. After reading which we proceed to gather in our usual crop of Useful Information and listen to the doctor's talk on Good Health.

This being the commencement of the hunting season, we will attend to A Few Hints to Sportsmen about the proper kind of fire-arms to use; examine a field of Cotton in California; pay a short visit to the State Fair at Sacramento, where we have a fine opportunity to examine the "American Chief" Gang Plow, and listen to some Eloquent Words Well Spoken on quite another subject.

Wearied with our weeks work and excitement we now seek relief from the varied scenes of the outer world within the quiet walks of the Home Circle, where we read at our leisure the long List of Awards made to exhibitors at the Mechanics' Institute and San Joaquin valley Fairs.

MAMMOTH SQUASH.—Messrs. Brocas & Perkins, corner of Merch and Sansome streets called our attention, a few days since, to a mammoth specimen of marrow-fat squash, which weighed 195 pounds. This immense vegetable was raised on Brannan Island, in the Sacramento river, just above Sherman Island, and affords another evidence of what may be done with the reclaimed tules of our river bottoms. It has been purchased by Robinson & Son, of the shell store, 217 Washington street, where it may be seen and examined.

IN MEMORIAM.—Passed on from this life, in Washington, D. C., September 18, 1871, Mrs. Eliza Dewey Sweeney, widow of the late Hugh Bernard Sweeney, and sister of Edw. M. and A. T. Dewey, of California. She leaves two daughters. Although personally departed, the influence of her noble mind will ever shine with brightness in our pathway on this side of the border.

A NEW FARM GATE.—M. Barthol's new patent Farm Gate will be illustrated next week.

A FEW WORDS TO SPORTSMEN.

As the shooting season begins we wish to enter an earnest protest, not so much against sporting, as a cruel and barbarous pastime, but against the careless use of good arms, and all use of poor ones. Every year the papers have to chronicle a large number of accidents resulting from the use of fire-arms. Several have already occurred the present season. Some of these accidents result fatally, while others only maim or disfigure their victims to a greater or less degree. While many of them could not well be foreseen or avoided, the vast majority are caused by gross carelessness. That this is true we think no one will deny who has made a study of the matter.

Well! how would you help the matter? some one asks.

In the first place, be sure that you have a reliable weapon. One that has been well tested in its making, and which will bear heavy charges and rapid firing. Unless you are in the habit of handling guns, and a good judge of the article, get some one who is posted in such matters to go with you, or at least to send you to some responsible dealer.

It is well to concede at the start that a good gun must cost a good fair price. No matter how free from useless carving, engraving and varnish, the making of a good stock, lock, and barrel requires good stuff and much hard work, all of which must be paid for. Without entering into a discussion of the comparative merits of long barrels or short ones, muzzle-loaders or breech-loaders, bar or back-action locks, we insist that your gun should be selected by a competent person, and the price should be high enough to pay for good work. No doubt many cheap guns will throw shot as well as those that cost ten times as much, but those who use them run a terrible risk. At one time it is some promising boy who is killed outright, at another time the principal of a large school loses a precious hand by the bursting of one of these infernal machines.

It has been held by some that dealers in this miserable trash should be held responsible for all casualties resulting from their defects. This may appear to be a severe doctrine; but it is hard to see why men should be put under restraint in dealing in gunpowder, kerosene and chemicals, and yet be allowed to sell guns which are as dangerous as any of the above articles.

Let it not be inferred from what we have said against cheap guns, that high priced ones are of necessity good. On the contrary, many of the poorest shams are set off with much carving, varnish and fancy case, and sold for enough money to buy a good gun. The only way in which you can be reasonably sure of buying a safe new gun is to deal with a reliable gunsmith who knows what he is selling, and has a reputation to lose.

Don't have too great faith in the old English gun, which was brought over by your ancestors. Very likely if you have the breech-pins taken out, the chambers will be found worn quite too thin for safety. It is well known also that metal which is frequently jarred or strained, as a gun is when fired, finally loses much of its strength, by the re-arrangement of its atoms which gradually takes place.

If the following simple rules were generally observed, at least nine-tenths of the accidents arising from the use of fire-arms would be rendered impossible:—

First.—Never point a gun or pistol toward yourself, or anybody else whom you do not intend to shoot. No matter how sure you are that the weapon is not charged, observe this rule for the sake of good habits. Not only should you refrain from levelling a weapon at a person intentionally, but it is just as important that you make sure at all times, that, in case of an accidental discharge, the shot will do no damage.

Second.—When loaded and capped al-

ways carry your gun at half-cock. It is a very common custom to carry the gun with the hammers resting on the caps; but it is by far the most dangerous method that could be selected, as there are three ways in which the gun may then be accidentally discharged. If the lock is a strong one, the simple pressure of the hammer will often be as efficient as a quick blow in exploding the cap. Any hard blow upon the back of the hammer will certainly discharge the gun. And lastly, if the hammer is caught by a twig, or in passing a fence, and raised a short distance and then released the cap must be fired, while if at half-cock, the hammer when released would be caught on the half-cock notch, or at worst be brought to full-cock. A gun that can be fired from half-cock, without breaking the lock, is so dangerous that no sensible person will use it a day, if there is a mechanic within reach who can repair it.

Third.—When getting into a carriage with a loaded gun, take the caps off. When you expect to shoot from the vehicle, this danger of carrying a gun capped, may be much reduced by putting an elastic wad, like Ely's, between the hammer and the cap.

Fourth.—Never leave a loaded gun in a house without its being capped, or in some way marked as loaded. We often see accounts of persons who have taken up such guns supposing them to be empty, put caps on them and snapped them at some friend whom they wished to frighten. The result of such sport is too frequently a coroner's inquest, and a verdict of "accidentally shot."

We could give instances of fatal results from the neglect of each of these rules, and we fear that any one of the readers of this article could soon make a large collection of items on the subject.

Most fathers are too careless about the quality of arms which their boys carry, and the instruction which they have as to the proper mode of handling them. Everybody beginning to shoot should have the above rules impressed upon his mind, and the perusal of some good "Sportsman's Manual" will be repaid in added safety, efficiency and enjoyment.

Cotton in California.

We have received another very fine sample of cotton from the Merced plantation of Messrs. Buckley & Strong, and are assured that this experiment has resulted in a complete success, although the season has been the most unfavorable which we have had for many years. A large part of the ground had to be planted the second time, on account of the dry hot winds which, it will be recollected, swept over the country with such damaging effect in the early part of the season. These winds cut down all tender vegetation within the reach of their direct sweep. The ground planted was less than one half that originally intended, on account of the dryness of the season. There has been only a very small portion of the ground irrigated—some 10 out of 70 or 80 acres planted.

Col. Strong is quite confident that he can produce the finest quality of cotton in this State. The sample before us affords ample proof of that. It can also be produced here, the Colonel thinks, 25 to 30 per cent. cheaper than it can be grown in the Mississippi valley, on account of the many advantages incident to our climate and other conditions. The planter is not troubled here with rains as he is there, at picking time, which not only seriously interferes with the work of picking, but is also productive of much loss in staining and otherwise damaging the fibre. We have here no army or cut worm to encounter, and but little care or cultivation is needed to keep down the grass which the summer rains of the Southern States so persistently nourish to the great disadvantage and cost of the planter. Cotton cannot be raised there for less than 12½ cents; while eight cents and possibly six may cover the expense of cultivation here.

It is thought that 10,000 acres will be planted with cotton in Merced county, next season, if this experiment turns out according to present promise, and if Friedlander's irrigation canal is completed in season to put out of the way all danger from another dry season. We cannot feel otherwise

than confident that we are on the eve of the development of a new agricultural industry on this coast, which will eventually be worth as much to the State as either wheat, wine, or wool.

The California State Fair.

The Fair opened on Monday, and at the time of our writing (Wednesday) is considered more than an ordinary success.

The pavilion is well filled—above and below—notwithstanding its enlargement. We can only speak briefly of some of the features of the exhibition this week.

The fruit display of our own State with that from Nebraska, Kansas, Illinois, etc., attracts more than usual attention. The Nebraska fruit is notable for its large and fresh appearance.

The silk culturists present a more varied representation than formerly.

The display of horned and small stock at the grounds shows decided improvement, and affords much of interest for examination and comparison.

The plowing match was thinly attended, this morning. At the trial there was a new sub-soil gang plow, by Myers & Gammow, of Marysville; a 2-gang plow, and a large stubble single plow, by Hill & Knaugh, Marysville; a 2-gang plow and a single plow, by Matteson & Williamson, Stockton; a Napierville, (Illinois) single plow by O. C. Ely, agent, S. F.; and last, (but not least by any means) Thompson's Road Steamer, with a 7-gang plow, by Jones & Hewlett, of Stockton.

A general view of the exhibition shows decided advancement in agriculture, horticulture and stock raising in the State, and an increased determination for improvement in the same. Such evidences of encouragement after such a discouraging season, for most farmers in the State, is the subject of pleasant reflections, and we feel sure that this is but the beginning of better things in California husbandry.

The President's Address

Was delivered to a large and attentive audience at the Pavilion on Monday evening, by Mr. Reed, who rendered an account for the seventh year of his stewardship. After alluding to the prosperous condition of the Association, under conditions most unfavorable for Agricultural industry, he passed to a brief review of some of the chief features of the present exhibition, and took occasion to comment somewhat severely on the neglect which was shown to dairy products in California—a State which presented more favorable conditions for such business than any in the Union.

He presented to his audience, as disgraceful to the intelligence, industry and financial common sense of California agriculturalists the fact that we are paying for the making and bringing 3,000 miles one hundred tons of butter a week—and all this while tens of thousands of acres of as good dairy lands as ever lay out-door, and as many lowing herds of the best dairy kine, united in calling young men to marry, milk the cows, make butter and get rich.

The speaker dwelt upon the importance of horses—the best of horses—horses of pure blood, easy pace, speedy trot and long endurance. Having presented some practical information on horses and horse-raising, Mr. Reed congratulated the audience upon the success of the Fair, and closed with a cordial welcome to one and all.

THE WILD GEESE are emigrating southward rather earlier than usual—an indication of an early setting in of the rainy season.

DEER are unusually numerous among the foothills of Los Angeles County.

A BEET sugar enterprise is projected for Santa Clara.

THE bean crop on the lower coast is pronounced a failure for this season.

THE MONT CENIS TUNNEL.—A telegraph dispatch announces that this tunnel, one of the wonders of modern times, has been opened and that trains are passing through successfully. When first tried, a serious difficulty was met with from the fact that the smoke of the locomotives became so dense, through want of a current of air to carry it off, that the engineer and fireman were suffocated while passing through. This obstacle has been overcome by employing smoke-consuming locomotives. The work was inaugurated fourteen years ago, and has progressed since then without interruption. Running through the Alps, it is the means of facilitating travel between France and Italy. Modern inventions have so far increased the means of completing an enterprise of this kind, that it is to be hoped that our much-talked-of tunnel under the Sierra Nevada, estimated at between five and six miles in length, to be used by the Water Co. and the C. P. R. R., will be finished in a much shorter space of time, proportionally. To modern science and engineering skill, mountains and rivers, instead of obstructions, are only considered as mediums for the exercise of ingenuity and ability, and these two important enterprises will show which of the two, American or French engineering, excels.

Germano Sommeillier, the great Italian engineer, who was the first to project the tunnel through the Mont Cenis, and was finally entrusted with its undertaking, died a few days ago, at his home in the Savoy mountains, after having lived to see the successful completion of his task.

NIAGARA FALLS.—Scientific men are anxious for a careful survey of Niagara Falls, in order that the changes which are constantly going on there, by the wearing away of the rocks, may be accurately noted. It is also proposed that large photographs be taken of the various points subject to change, with which future photographs, taken from the same points, may be compared.

These falls are making a slow, but sure and steady march up the river; but their beauty and grandeur will never close until the precipice over which they rush shall, in its recession, reach and break through the river-rock and drain off the water of Lake Erie—a result sure of accomplishment at some future time. A series of photographs showing the different phases which the falls must assume in this retrocession, would in future ages be regarded as of priceless value.

LOW WATER.—The streams are unusually low all over the State, seriously hindering mining and milling operations almost everywhere. Probably the rivers have never been lower than they now are since the first occupation of California by the people of the United States. The same complaint reaches us from across the Sierras. The streams in Idaho are lower than ever before known. The Boise river, at last accounts, was one foot lower than at this time last year, and was still falling.

AUSTRALIAN SPIDER.—Mr. A. G. Bourd of the Southern Australian Telegraph party, say that spiders abound in great numbers in that part of the world—that in riding through the bush both rider and horse become covered with webs. He sends to the editor of the South Australian Register a specimen 6 or 7 feet in size, broken off while he was riding through the Mulga scrub. The fibre is as strong as silk and very tough when first taken. Immense quantities may be obtained. He heard that one of the advance parties had made the material into a cracker for their whips!

CATTLE FROM SAN JOAQUIN.—A band of 1,000 head of cattle, belonging to Mr. Anderson, arrived at Winnemucca, Nevada, on Friday of last week, on their way to Idaho, from San Joaquin County in this State.

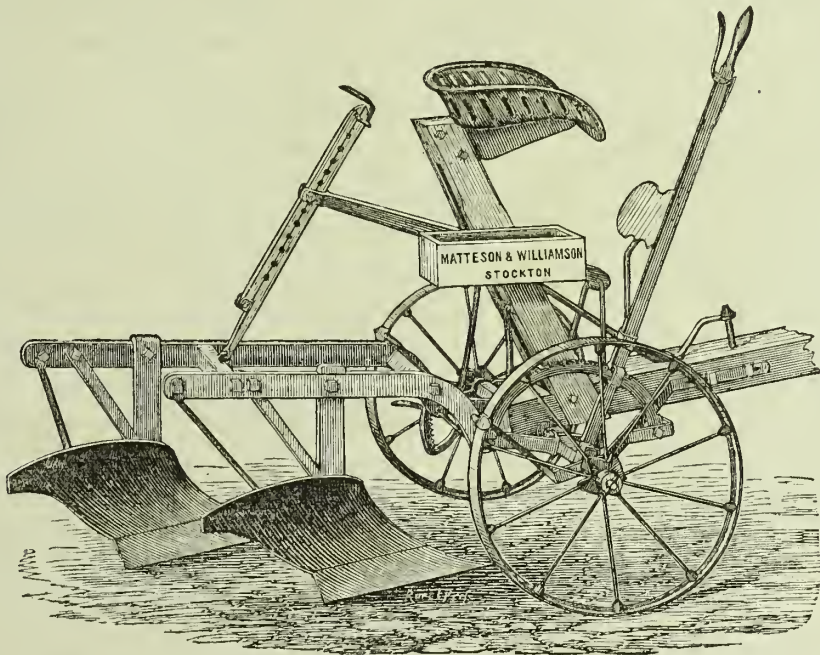
The "American Chief" Gang Plow.

We give herewith an illustration of the "American Chief" or Stockton plow, as it is sometimes called, owned and manufactured by Matteson & Williamson of that city. The patentees claim for the plow:

First,—An improved lever and ketch for handling the same—the axle being straight. The leverage is from a direct centre, and so arranged, by lugs attached as to give a double leverage—thus enabling the plowman to raise or lower the plow, with very little power—claimed by the patentees to be less than that required by any other sulky gang plow now in use.

Second,—The plow is thrown to or from the land by shifting the brace, which is shown as connecting the axle with the tongue, backward or forward by means of bolts working in slots in the braces, as shown by the engraving, in the tongue, near the outer rim of the off-wheel, thus throwing the tongue in or out of the direct line.

Third,—The walking beam lever shown in the rear of the seat, is also so constructed that in raising or lowering the plow, a perfect level is retained; and thus is obvi-



MATTESON & WILLIAMSON'S PATENT GANG PLOW, "AMERICAN CHIEF."

ated the difficulty of oblique resistance, or dragging of the point.

Fourth,—The lever and curved gauge shown underneath the plow beam, and within the rim of the nigh-wheel, enables the operator to raise or lower the axle upon a level for striking out land.

The mould board is the result of 25 years of experimenting, and is so curved and constructed that it will do good work with light draught, either in deep or shallow plowing, as has been testified to by great numbers of experienced persons who have used it.

At the Grand Plowing Tournament held in March last, under the auspices of the San Joaquin Valley Agricultural Society, this plow was awarded the premium of \$100 and a framed diploma as being "The plow or gang of plows doing the best plowing of every kind, and being best for all purposes," for the following reasons as given in the Committee's report: "That it turns a better furrow than any other plow competing, and in addition to this fact, the material and mechanical skill employed [in its manufacture], warrant the belief that it will prove the most economical, durable and efficient."

These plows are made in each of the following styles: Two gangs, 10-inch plows each; two gangs, 11-inch plows each; two gangs, 12-inch plows each; two gangs, 10-inch diamond plows each; three gangs, 10-inch diamond plows each; four gangs, 10-inch diamond plows each. Also, extra shears.

Eloquent Words Well Spoken.

The following eloquent paragraphs are from the address of Mayor Reiley of Richmond, on the occasion of the formal reception of the American Pomological Society in that city. They are truly words well and fitly spoken:

The union of science with labour is among the most characteristic peculiarities of our age. The time was, when philosophy marched along the highways of the earth wrapped in a lordly pride which disdained all association with labour, and if it deigned to cast a look across the hedge that divided it from the field and the garden, it was to vent its scorn on the dusty hand and less intelligent brain there engaged. From this two great evils resulted. First: agriculture and every other form of fruitful labour lost the important aid of philosophy, and, secondly, philosophy itself lost the powerful stimulus which profit lends to every development of human effort.

Almost within our memories all this has been changed; the white hand has clasped the brown, the teeming brain has grasped the plow, the pruning hook, and the sickle, and those great agencies for the betterment of our race whom God hath joined are no longer by man to be sundered. And with what splendid results on every hand! Surely if he may be claimed to be a bene-

Jumping Cattle—How to Break Them.

Breechy steers may be cured of the bad habit by cutting off the eyelashes of the underlids. The effect is the same as sending Sampson to the barber. The authority for this statement is Samuel Thorne, the great breeder.

A correspondent of the Mass. *Plowman*, after reading the above, experimented as follows:—"I, with my neighbor, put to pasture two yearlings; mine returned to the barn in half an hour. I returned her to the pasture, but before I could leave the pasture, the yearling jumped a four foot fence and went home first; my neighbor's soon followed. The next morning I clipped the lower lashes, he the upper, and turned them out again; mine remained, his returned home; he returned his three times in the course of the day, each time finding mine walking up and down the fence in a perfect maze.

Another correspondent of a later date relates his experience as follows:—"My cow made the discovery last year that the mowing was the best place for a cow to breakfast, and commenced acting on the knowledge this spring, so that before the bars were fairly up she was over the wall.

I remembered the story about cutting the lower eyelashes, clipped them close, turned her into the pasture again and watched the result. She went up to the wall, looked surprised and walked off a little, then turned and walked up to the wall again, evidently determined not to be imposed upon, but something was wrong and after repeating the operation several times she went off quietly to feeding. At noon she lay in the shade calmly chewing her cud (of bitter fancies.) At night patiently waiting at the bars to be driven home. Next morning as before, only it took less time to become satisfied. At noon all right. At six o'clock, looking anxiously for the boy; at five minutes past six, luxuriating in the tall grass again. Since that time the wall is no barrier, and the experiment which cost nothing is worth all it cost, as far this particular animal is concerned.

FRUIT RECEIPTS.—Messrs. A. Lusk & Co. report the following receipts of fruit in this city for the week ending Saturday last: Pears, 1,200 boxes, Bartlett and 8,000 common; apples, 13,000 boxes; peaches, 3,000; plums, 4,000; grapes, in all 12,000 boxes, half of them of foreign varieties; blackberries, 40 chests; raspberries, three chests; strawberries, 15; figs, 50 boxes; quinces, 500; and 30,000 melons.

LOS ANGELES.—The grape crushing season has commenced here. A reliable estimate of the crop near Anaheim, is, that it will be only two-thirds that of last year owing to the ravages of grasshoppers and the dry season. At Cocomungo Beach and vicinity the grasshoppers were only checked by ditches. The loss there is greater than at Anaheim. A single wine grower in the Los Angeles valley expects to realize 200,000 gallons. The total wine yield of the county is estimated at from a million to a million and a quarter gallons.

INACCURACIES OF THE CENSUS.—Great complaints have been made of the inaccuracies of the last census. So imperfect was it shown to be in Philadelphia, that the Census Bureau ordered a new census for that city, which resulted, among other facts, in advancing the value of the annual manufacturing industry of that city from \$206,000,000 to \$326,000,000—an increase of about 60 per cent.

STOOLING OF WHEAT.—Mr. Logan, of the English East India Service recently forwarded to the editor of *Nature* a photograph of the produce of a grain of wheat grown in India. One hundred and sixty shoots sprang from the grain, of which one hundred and five became ears of wheat. The broadcast system of planting, in general use in India, shows seven ears of wheat as an average yield from one grain.

EXTENSIVE FIRES are raging in the mountains north and east of Los Angeles; also on the road from Nevada to Dutch Flat, near the latter locality.

WHEAT FROM CALISTOGA.—The shipments of wheat from Calistoga during last week averaged about fifty tons per day.

THE WALNUT CROP.—The first shipment of this year's walnut crop from Los Angeles was made by the last steamer from that city.



TRIED AND TRUE.

An O'er True Story of California Life.

In the year 1851, there were among the early American settlers of San Francisco, California, two brothers named Thompson, who, having come thither from an Eastern State at the beginning of the "gold excitement," three years before, and labored conjointly for the more generous favors of fortune without commensurate result, decided at last to separate for a time; the one go to the mines and work for the fraternal partnership there, while the other remained in the city and improved such chances as ordinary business should offer. By such an arrangement two promising fields would be worked at once, and its wisdom was equally obvious to both young men; but when it came to the question of which of them should assume the hardships and perils of a miner's life, neither exhibited an alacrity to name himself for the adventure.

To decide this delicate point they drew lots, by which formula of fate the elder Thompson was doomed to become the miner, and accordingly procured an outfit and prepared to leave the city. Before taking the latter step, however, the miner-elect chose to bring a little romance of his California life to a climax by wedding a young Eastern woman, who, like himself, had left home to woo fortune on the Pacific coast; and although he could not take her with him into the wild, comfortless life of the mines, the satisfaction of feeling that he had at least secured her for himself, and had a beloved brother in whose care to leave her, gave him more courage and inspiration for his departure than might have been possible to him as a bachelor. Wedded he was, then, and after a honeymoon of heroic brevity he consigned his bride to the protection of his brother, and bravely marched away with pick and shovel to the gold fields of the north. Eager as he naturally was to dig his prize from the earth and hasten back to the greater prize left behind, he was yet firmly resolved to deny himself wife, brother, and home, until he could indeed be the bearer of some share of wealth. So, when his first essay in the mines did not prove wholly satisfactory, he went sturdily onward into the Indian country, and, amongst the red men, added hunting and trapping to his mining pursuits. Thence still moving still further northward, he reached Fraser River when the excitement about the auriferous yield of that locality was in its height, and there succeeded in digging no less than 200 ounces of the precious dust, which he at once sent by express to his wife and brother in San Francisco.

From them he had thus far heard nothing on his travels, for it had been agreed that they should not write until he should be in some place reached by regular mails; but now he was impatient to learn how they regarded his present, and felt sure that they would devise some means of forwarding their written congratulation. The feeling was vain, however; no letter came; and, after months of waiting, the finally indignant Thompson wrote to a friend in San Francisco with inquiries respecting the silent ones. The answer came that they had recently disappeared from the city together, having, apparently, in their possession a considerable sum of money, obtained no one knew exactly how. The miner, of course, knew whence the money came; but such intelligence of its seeming effect upon those whom he had held dearest in the world appealed to his apprehension in a most sinister sense. He believed that he was doubly betrayed; that his wife and his brother had basely and heartlessly practiced the blackest treachery against him, finally using the gold he had sent to help them beyond his reach. Heartbroken and desperate the poor fellow thought no more of any goodly future for himself, but cared only for such wandering, wild adventure and savagery, as should divert him from all retrospective and tender thoughts.

He joined an expedition to the Great Slave Lake, as it is called and remained in the wilderness beyond reach of mail or messenger for several years. Returning finally to Victoria, on Fraser River, he went with

another expedition to Idaho, and there and in Montana he was lost until as late as 1866. From the latter year until 1868 he was a resident of Salt Lake City, going from thence to the once famous White Pine mines, of Nevada, about eighteen months ago. Fortune smiled not upon his generally listless efforts; he had a life of comfortless vagabondage and the twenty years of his absence from San Francisco wrought such lines in his face and whiteness in his hair as forty happier ones could not have produced. Some two weeks ago the broken, hopeless, and embittered man visited a mining camp not far distant from the town of Eureka, Nevada, for the purpose of joining a company fitting out for a trip to Arizona, and there, says the Eureka Sentinel, telling his story, he was fated to be delivered at last from the delusion of twenty miserable years. In the expedition preparing for Arizona was another man named Thompson, who, though neither recognized or recognizing at first, proved to be no other than our miner's recreant brother. When the poor vagabond wanderer discovered this, despite his wrong, he fell upon his brother's neck and cried like a child; and not only did that brother receive and return the caress without shame, but he took the earliest opportunity to reprove the other for leaving his wife and brother to suppose, for nearly a score of years, that he was dead.

The gold had been received, but without address, or a line to tell whether it came as a living man's gift or a dead man's legacy. No letter from the miner had ever reached wife or brother, though they had sent many a one to him. The wife had at last felt obliged to conclude that her husband was dead; the gold sent had been his dying gift, and with the money she had bought a valuable farm near San Jose, where, wearing the weeds of widowhood, she still lives. As for the brother, he spent portions of the last fifteen years in pursuit of some trace of the miner, hoping at least to find his grave and sanctify it with a fraternal tear; but now that he actually saw the living man before him, nothing was left for them but a rushing journey to a certain valley-farm near San Jose, where the best, truest, and staunchest, would at once become the most surprised and the happiest little woman in the world? "Ere this," concludes the story, "there has been a meeting." The decline of life will pass in ease, comfort, and happiness for a man who for twenty years believed himself the victim of woman's perfidy.

Troublesome Children.

When you get tired of their noise, just think what a change there would be should it come to a total silence. Nature makes a provision for strengthening the children's lungs by exercise. Babies can not laugh so as to get much exercise in this way, but we never heard of but one that could not cry. Crying, shouting, screaming, are nature's lung-exercise, and if you do not wish for it in the parlor, pray have a place devoted to it, and do not debar the girls from it, with the notion that it is improper for them to laugh, jump, cry, scream, and run races in the open air. After awhile one gets used to this juvenile music, and can even write and think more consecutively with it than without it, provided it does not run into obnoxious forms, which is not often the case.

We remember a boy that used to go to school past our window, and he generally made a continuous stream of roar off to the school-house and back again. We supposed at first he had been nearly murdered by some one; but, on inquiring into the ease, found him in perfectly good condition. The truth was that the poor little fellow had no mirthfulness in his composition, therefore couldn't laugh and shout, and so nature, in her wise compensations, had given him more largely the faculty of roaring. He seemed to thrive upon it, and, we believe, is doing well. Laughing and hallooing, however, are to be preferred, unless a child shows a decided incapacity for those exercises.

THE GIRLS.—Can we not bring up our girls more usefully, less showily, less dependent on luxury and wealth? Can we not teach them from babyhood that to labor is a higher thing than merely to enjoy; that even enjoyment itself is never so sweet as when it is earned? Can we not put it into their minds, whatever be their station, principles of truth, simplicity of taste, hopefulness, hatred of waste; and these being firmly rooted, trust to their blossoming up in whatever destiny the young maiden may be called.—Miss Muloch.

Social Honor.

Every person should cultivate a nice sense of honor. In a hundred different ways this most fitting adjunct of the true lady or gentleman is often tried. For instance, one is the guest of a family where, perhaps, the domestic machinery does not run smoothly. There is sorrow in the house unsuspected by the outer world. Sometimes it is a dissipated son, whose conduct is a shame and grief to his parents; sometimes a relative, whose eccentricities and peculiarities are a cloud on the home. Or, worst of all, husband and wife may not be in accord, and there may be often bitter words spoken and harsh recriminations. In any of these cases the guest is in honor bound to be blind and deaf, as far as people without are concerned. If a gentle word within can do any good, it may well be said; but to go forth and reveal the shadow of an unhappy secret to any one, even your nearest friend, is an act of indelicacy and meanness almost unparalleled. Once in the sacred precincts of any home, admitted into its privacy, sharing its life, all that you see and hear is a sacred trust. It is as really contemptible to gossip of such things as it would be to steal the silver or borrow the books and forget to return them.

Beecher's Idea of a Boy.

At twelve, or fourteen, certainly, a boy is capable of taking care of himself out of doors. He ought to be able to drive a horse, climb the highest tree, to swim skillfully, to carry a gun safely, and use it aright, to be of such a manly disposition as not to provoke attack, or, if wantonly assailed to have such a courageous way of using himself, that the same miscreant will not care to meddle with him the second time. Nimble of hand, quick of foot, strong of limb, loving of action for mere luxury. This is the boy the pious mother finds it hard to train Christianly, and when to his outward freedom is added the self-control which true religion gives, he will grow up such a man as the State needs—as good men honor—as true women fervently love.

THE SILVER RULE.—PASTE IT UP.—You all know the golden rule: "Do unto others as you would wish them to do unto you." Here is a rule which is almost a part of the golden rule, but which we will put by itself, and because of its value, call it the "Silver Rule." "Think and say all you can of the good qualities of others; forget and keep silent concerning their bad qualities." You cannot conceive how much such a course will lighten your own happiness, and raise you in the esteem of your mates. Did you ever think any more of a boy or girl because he or she found fault with others? Never call your school-mates or playmates ugly, or cross, neither to their faces or behind their backs. If they are ugly, or stingy, or cross, it does not make them better to talk or think about it, while it makes you love to dwell upon the faults of others, and causes your own soul to grow smaller, and you become like the foul bird that prefers carrion for food. Rather tell all the good you can, and try to think of some good quality.

READING TOO MUCH.—Girls read too much and think too little. I will answer for it. There are few educated girls of 18 who have not read more books than I have; and as to religious books, I could count upon my fingers in two minutes all I have ever read—but they are mine. Multifarious reading weakens the mind more than doing nothing, for it becomes a necessity at last, like smoking, and is an excuse for the mind to lie dormant, while another's thought is poured in and runs through, a clear stream over unproductive gravel, on which not even mosses will grow. It is the idlest of all idleness, and leaves more of impotency than any other.—F. W. Robertson.

A YOUNG LADY—a sensible girl—gives the following catalogue of the different kinds of love: "The sweetest, a mother's love; the longest, a brother's love; the strongest, a woman's love; the dearest, a man's love; and the sweetest, longest, strongest, dearest love, a love of a bonnet."

THE sayings attributed to little children are more often gotten up by older people, but it's true that a small girl playing beside a street gutter, the other day, did say when she couldn't get the stagnant water to move on: "I don't want to play here any more; zis water won't swim."

It is very dangerous for any man to find any spot on the face of the earth that is sweeter than home.

YOUNG FOLKS' COLUMN.

The Cat and the Sparrow.

In *Old and New Stories*, we find the following anecdote, which we wish our little folks, and for that matter, the big folk too, to read to learn to protect the weak and defenseless from the cunning and cruelty of the strong:

A cat lived in the house where a tame sparrow was kept. The bird was not shut up in a cage, but let out to fly in the parlor, and very often was close to puss—almost within her jaws; but she would let it hop about, and even perch between her ears, without the least harm.

One day they were both upon the rug, like very good friends, when the cat jumped up, caught poor sparrow in her mouth, and ran off with it. This was very strange!

Nobody knew what to think. Soon another cat was seen in the room, which was driven out, for it did not belong to the house, and then in came our old cat again. She crept under the chairs and around the room, and finding no danger, went away to come back with the sparrow, in her mouth, safe and well. It was set down upon the carpet to the great delight of all who saw this done. The two friends lived happily together for some time afterwards.

A Word to Boys.

Make yourself indispensable to your employers; that is the golden path to success. So industrious, so prompt, so careful, that if you are absent one hour of the usual time you will be missed, and he in whose service you are shall say, "I did not dream W—was so useful." Make your employer your friend, performing with minuteness whatever task he sets before you, and above all, be not too nice to lend a hand, however repugnant to your sense of neatness it may be. The success of your business in after life depends upon how you deport yourself now; if you are really good for anything, you are good for a great deal. Be energetic; put your manners into business; look, as well as act with alacrity. Appear to feel an interest; make the success of your master's your own, if you have an honest one. Let your eye light up at his request, and your feet be nimble. There are some who look so dull and heavy, and go with so slow and lazy a pace, that it is irksome to ask what it is one's right to demand of them. Be not like these.

Boys and Tobacco.

A French physician has investigated the effect of smoking on thirty-eight boys, between the ages of nine and fifteen, addicted to the habit. Twenty-seven presented distinct symptoms of nicotine poison. In twenty-two there were serious disorders of the circulation, indigestion, dullness of intellect, and a marked appetite for strong drinks; in three there was heart affection; in eight decided deterioration of blood; in twelve there was frequent epis-taxis; ten had disturbed sleep, and four had ulceration of the mucous membrane of the mouth.

A WEALTHY OLD MAID AND HER DOGS.—A wealthy old maid by name, Saint Winifred Stubbs, has been keeping a vast number of dogs in her drawing room, without permitting the apartments to be cleaned. An order was given to have the nuisance abated, which was done, but, unfortunately, the stirring up of the rooms made things worse, and the maiden, who had reached the age of 79, sickened and died. She was found dead in one of the rooms.

She never lay in a bed, but took her nightly rest in an arm chair among her faithful brute friends. The unhappy dogs conscious of their loss, were found, some standing round her, licking her hands, and others on her body licking her cold face, while several others were around howling piteously.—*Irish News*.

HOW TO BE "NOBODY."—The Boston Traveler gives the following directions how to be come "a nobody": "Young man, it is easy to be nobody! Go to the drinking saloon and spend your leisure time. You need not drink much now—just a little beer or some other drink. In the meantime play chequers, dominos, or something else. If you read let it be "dime novels" of the day; then go keep your stomach full and your head empty; and in a few years you will be nobody, unless you should prove to be a drunkard or a professional gambler, either of which is worse than to be nobody."

DOMESTIC ECONOMY.

How to Carve.

It is a great accomplishment to be able to carve well and easily, without awkwardness; but it is one that receives altogether too little attention. Too often, it would seem that whoever is called upon to perform this table duty, has no idea of there being anything needed but to hack off in the most expeditious manner as much meat as is required to satisfy the wants of those present, without the slightest reference to the mode in which it should be done, or the choice bits to be secured by careful carving. We have seen those who in every other respect were real gentlemen and ladies, carve poultry or a piece of meat, in such a barbarous manner as to banish all desire to eat, and almost the ability to taste the big uncouth, mangled lump that was put or rather thrown on our plates. To cut off a thick, rough piece from any part that the knife happens to light upon first, aside from being untidy and unpalatable, is also very wasteful. After two or three such careless cuttings, the whole piece is so defaced and uneven, that it is no longer possible to secure a decent looking bit; and the bone is left with much adhering to it in ragged morsels, that dry and become worthless if left over to the next day, but which, had the joint been properly carved could have been sent to the table for a cold relish for tea, in a neat and attractive form.

Our ladies are seldom good carvers, and do not often attempt it. Few have been taught, or thought it worth while to try and learn; but in early times it was considered an indispensable part of a girl's education. The want of such knowledge often leaves one in an unpleasant and embarrassing position; for to every one there occasionally comes a time when the gentleman of the family must be absent, and the lady must do the carving, or ask a guest or stranger, who may be more awkward than herself.

To stand up while carving is not as proper or as skillful a way of doing the work as to be seated; but it is sometimes easier and more convenient, and, if the table be at all crowded, less troublesome to guests. In such cases it is quite allowable.

The carving knife must be sharp and thin. A large, broad-bladed knife is needed for meats; a long, narrow, and sharp pointed blade for poultry and game; both should be kept in perfect order, and always ready for use.

How to Carve Poultry.

When dished, poultry and game must be laid on the back, the breast uppermost, for the greater convenience of the carver, who should put the fork into the breast, holding the bird firmly until he has taken off the wings and legs, cut out the "merry thought" or "wish bone," cut nice, even slices from the breast, and removed the collar bone. A skillful carver will do all this without once turning the fowl over. Next cut off the side bone, and cut down the back dividing the carcass in two. Separating the drumstick from the second joint, and in helping a lady, if she prefer the wing, cut in two parts that she may handle it more conveniently.

To Carve a Leg of Mutton.

A ham, or leg of lamb or mutton, should be first cut in the middle clean down to the bone, passing the knife all round. Then cut thin, even slices from the upper or thicker part, separating each slice from the bone at the bottom, carefully, without tearing it. Some slices can also be cut from the lower part of the leg or ham, which are just as good as the upper part; but after a little you come to the cords or fibres, and then the remainder of the lower part should be set aside, to cut out all the little bits for a relish at tea, or, in ham to chop up as seasoning, or, with scraps of other kinds of meat for hash. By cutting meat in this way much may be saved. Good carving is good economy.

In carving a forequarter of lamb, divide the shoulder from the ribs; then separate the ribs; and in carving the hindquarter, serve a bit of kidney and fat with each piece, if agreeable to your guests. Some people dislike the kidney, and would eat with more relish if it were not on their plate. The forequarter of pork and mutton should be carved in the same way.

A Fillet of Veal, Etc.

In carving a fillet of veal, begin at the top to cut, serving a portion of the dressing to each guest. When carving the breast of veal, cut the upper portion of the

brisket, or that part of the breast that lies next to the ribs separately, and in helping, inquire what part is preferred.

The middle portion of boiled tongue is the best, and should be first served to guests. The tip is only fit for hashes. It should always be cut crosswise, never lengthwise.

When dishing a sirloin, place it on the platter with the tenderloin underneath, and in carving cut thin slices from the side next to you; then turn the piece over, and carve the tenderloin carefully, serving equally from both parts.

Some like to send a young pig whole to the table, with a lemon or a bunch of parsley put into the mouth. We think it much nicer to take the head off and cut the pig in halves or quarters before sending it to the table, and then carve it. It would be very unpleasant to many to see such a revolting caricature of a live pig brought before them. But each one must judge for himself.—Mrs. Henry Ward Beecher.

PLEASE EXPLAIN.—Will the Editor of the PRESS please explain the philosophy of the following occurrence, and oblige a HOUSEKEEPER.

A Western lady recently met with a serious mishap. While the soap she was making was boiling at a lively rate, she turned into the kettle a quantity of cold lye, when the contents exploded with great force, scalding the persons present in a shocking manner. The explosion was instantaneous and so powerful as to leave the kettle entirely empty.

We are not sure of our ability to "explain;" but if the occurrence took place as stated, we should suppose that the temperature of the "boiling soap" was so much above that of boiling water, that when the water was poured into the kettle, it was so rapidly converted into steam that an explosion was the consequence; much as the same occurrence takes place, when water is poured upon melted iron. We do not know the temperature at which soap boils; but our impression is that it must be much above the boiling point of water; else the above explanation cannot be correct.

Something New—A Water-Proof Starch.

A patent has been recently taken out in France for the preparation of a finish, or starch, for vegetable tissues, yarns, clothes, etc., which is not soluble in water, and which, therefore, when once applied, will remain throughout several successive washings. In this case, the articles in question are properly starched and then placed at a temperature of about sixty degrees Fahrenheit through a bath of chloride of zinc, by means of which such a change is produced in the fibre and the starch that the latter resists the action of the water in the most thorough manner. A bath of three parts of sulphuric acid and one of water, may, it is said, be used instead of that of chloride of zinc. The liquid is to be placed in a trough, in which a revolving barrel is immersed, almost to its axis, and above which is a roller which is moved in an opposite direction by the turning of the lower one. Between the two the material to be impregnated is passed, being moistened from below by the bath, and in passing between the two, receiving the necessary pressure. If the material be heavy, the barrel lies entirely in the bath, and a pair of rollers fixed above it is used to press out the superfluous liquid. The articles are carried directly from the trough into running water, from which they are to be removed, pressed out and dried.

TO MAKE SOUP TABLETS.—The *Chemical News* gives us from the German Manuals of Pharmacy the following receipt, by Reinsch, for making the soup tablets so much in use in the German army during the late war. The formula is as follows: Take eleven parts by weight of good suet, melt it in an iron pan, and make it very hot, so as to become brown; add, while keeping the fat stirred, eighteen parts of rye meal, and continue heating and stirring so as to make the mass brown; add then four parts of dried salt and two parts of coarsely pulverized caraway seed. The mixture is then poured into tin pans somewhat like those used for making chocolate into cakes. The cakes have the appearance of chocolate, and are chiefly intended for the use of soldiers while in the field. A quantity of about one ounce of this preparation is sufficient to yield, when boiled with some water, a ration of good soup, and in case of need, the cakes being agreeable to the taste, may be eaten raw.

Domestic Receipts.

BAKING CAKE.—Here is a simple way of preventing cake from sticking to the tins in which it is baked. Grease the tins thoroughly, then put in a handful of flour, shake it all over the inside of the dish, in which you bake; then, after turning it upside down, strike it on the edge of your flour bowl; that will free all that does not adhere to the grease. Now put in the dough and your cake will "come out" nicely.

TO CLEAN LOOKING-GLASSES.—Take a newspaper, fold it small, dip it in a basin of clean cold water. When thoroughly wet, squeeze it out as you do a sponge; then rub it pretty hard all over the surface of the glass, taking care that it is not so wet as to run down in streams; in fact, the paper must only be completely moistened, or dampened, all through. Let it rest a few minutes, then go over the glass with a piece of fresh newspaper, till it looks clear and bright. The insides of windows may be cleaned in the same way; also spectacle-glasses, lamp-glasses, etc. White paper that has not been printed on is better;—but in the absence of that a very old newspaper, on which the ink has become thoroughly dried should be used. Writing paper will not answer.

PRESERVED WATERMELON RINDS.—Cut the rinds into squares about an inch thick; boil in alum water a few minutes; then rinse in cold water, and drain. Make a syrup of equal weight of white sugar; boil until clear. When cool, add a little essence of ginger, or what is better, when the preserves are to be used, add a little extract of lemon.

ONION SOUP.—Alexander Dumas recommended onion soup as an infallible remedy for nervous prostration, headache, and debility. He prepared his soup, which has become quite famous among the gourmands of the French capital, of cream and onions.

SUNDERLAND PUDDING.—Six eggs, whites and yolks beaten separately; one pint of sweet milk or cream; three tablespoonfuls of wheat flour; a little salt. Add the whites lastly. Bake twenty-five or thirty minutes.

GRAHAM BREAD.—Two cups of sweet milk, two cups sour buttermilk, one-half cup molasses, one teaspoonful of soda, with unboluted wheat meal to make a stiff batter. This cannot be beaten for bread.

APPLE JELLY.—Slice acid apples without paring, boil till tender, then strain, and take 3/4 pints of juice to one pint of sugar; boil about twenty minutes.

Mechanical Hints.

TO MAKE TUNGSTIC GLUE.—Tungstic glue bids fair to be an acceptable substitute for hard india rubber, now so high in price. It is prepared by mixing a thick solution of glue with tungstate of soda, and hydrochloric acid, by means of which a compound of tungstic acid and glue is precipitated, which at a temperature of 86 to 104 Fahrenheit, is sufficiently elastic to admit of being drawn out into very thin sheets. On cooling, this mass becomes solid and brittle, and on being heated is again soft and plastic. This new compound, it is said, can be used for all the purposes to which hard rubber is adapted.

HOW TO RENOVATE WORN OUT FILES AND RASPS.—Boil the file in a very strong solution of soda, or, what is better still, soap-boilers' soap lees, which removes all the inherent dirt. It must then be allowed to remain for about half a minute in a solution composed of two parts of water and one part of nitric or muriatic acid; and after that washed with water, and slightly brushed over with oil of turpentine. To show the efficiency of the diluted acid in producing a keen edge on instruments, dip therein a round pointed needle, or worn knife, and the result will be satisfactorily seen.

MARINE GLUE.—The following receipt is said to be an excellent one:—Take of coal naphtha, 1 pint, pure (not vulcanized) rubber, 1 ounce, cut in shreds; and macerate for 10 or 12 days, and then rub smooth with a spatula on a slab: add at heat enough to melt, 2 parts of shollac by weight, to one part of this solution. To use it, melt at a temperature of about 248° Fahr.

THE cabs in New York City are painted dark red, and striped sparingly with black. Vermillion broad lines, and carmine glazed on vermillion, are still used to some extent. Blue on panels, and for broad lines on the carriage part, may be occasionally met with.

If a coat of varnish be not rubbed down level, and freed from all grit and scratches, it may not be expected of the next coat that it will be perfect.

LIFE THOUGHTS.

WHAT is virtue but a medicine and vice but a wound.—Hooker.

THE childhood shows the man as morning shows the day.—Milton.

ETERNAL life is spiritual substance, present and incident to the possessor.—E. H. Chapin.

THE mere learning of language is like expending one's money for handsome purses.—J. P. Richter.

REAL happiness is cheap enough, yet how dearly are we in the habit of paying for its counterfeit.—Ballou.

WOE to the physician who does not do his best for the beggar, just as for the millionaire.—E. E. Hale.

THE measure of civilization in a people is to be found in their just appreciation of the wrongfulness of war.—Arthur Helps.

EVERY newly discovered truth judges the world, separates the good from the evil, and calls on faithful souls to make sure of their election.—Julia Ward Howe.

If you can but give to the fainting soul at your door a cup of water from the wells of truth, it shall flash back on you the radiance of God. As you save, so shall you be saved.—Conway.

HE who begins by loving Christianity better than truth, will begin by loving his own sect or church better than Christianity, and end by loving himself better than all.—Coleridge.

Singleness of Object.

In the work of life, the great secret of success in any undertaking lies in a concentration of one's powers upon a single object. One may have talent and wealth, but if he has no well-defined object, toward which all his energies are bent, the world would be nearly as well off without him. There is a beautiful illustration of this principle in the burning glass. A single ray reflected from its surface is almost imperceptible in its effects; but when many are concentrated upon a common point, they produce a heat so intense as to fuse the hardest metals.

Perhaps there are men who have succeeded in more than one kind of business, but are there not scores all around us who have failed? Again there are those who, after years of toil and application to a single object have made but little advancement. Is the fault in the effort, or in the object? Have they not cherished some pet scheme in opposition to their own reason, some wild theory without foundation? Is it right to bring up, as evidence, the case of a man who has spent his whole life in an attempt to discover perpetual motion, or in some other pursuit equally absurd, and call it a failure? This is "hobby-riding" not an earnest attention to business.

HOW SOON FORGOTTEN.—So lately dead; so soon forgotten. This is the way of the world. Men take us by the hand, and are anxious about the health of our bodies, and laugh at our jokes, and we really think like the fly on the wheel, that we have something to do with the turning of the earth. Some day we die and are buried.

The sun does not stop for our funeral; everything goes as usual; we are not missed in the street; one or two memories still hold our names and forms; but the crowd moves in the daily circle, and in three days the great wave of time sweeps over our steps and washes out the last vestige of our lives.

HOW TO KEEP A SITUATION. Lay it down as a foundation rule, that you will "be faithful in that which is least." Pick up the loose nails, bits of twine, clean wrapping paper, and put them in their places. Be ready to throw in an odd half an hour or hour's time when it will be an accommodation, and don't seem to make a merit of it. Do it heartily. Though not a word be said, be sure your employer will make a note of it. Make yourself indispensable to him, and he will lose many of the opposite kind before he will part with you. Those young men who watch the time to see the very second their working hour is up—who leave, no matter what state the work may be in, at precisely the instant—who are lavish with their employer's goods will always be first to receive notice that times are dull, and their services are no longer required.—Workingman.

WORK.—There is a perennial nobleness and even sacredness, in work. Were he never so benighted, and forgetful of his high calling, there is always hope in a man that actually and earnestly works; in idleness alone there is perpetual despair.

AWARD OF PREMIUMS.

The following is the complete and corrected list of Premiums awarded by the Mechanics' Institute to the most successful exhibitors at the late Fair:

Gold Medals.

1. California Silk Factory; Raw, Spool and Twist Silk. Their manufacture.
2. Mission Candle Works; assorted California made candles.
3. Alvarado Beet Sugar Company; sugars from the beet root. Their manufacture.
4. Mission and Pacific Woolen Mills; display of blankets and knit goods. Their manufacture.
5. Jonathan Kittredge, California made safes.
6. Vanderslice & Co., California made silverware.
7. Jacob Zech, California made pianos.
8. Pollard & Carvill Manufacturing Co.; clarences.
9. B. N. Bugby, exhibit of wines and brandies from foreign grapes. His manufacture.
10. J. H. Culver, machine for cutting twist mouldings, California invention and manufacture.
11. Pacific Stone Company, artificial manufactured stone.
12. Pacific Wood Preserving Company, process of preserving wood.
13. William Betts & Co., California made carriage springs.
14. S. M. Brooks, painting.
15. Cheney Bros.; American Dress Silks.
16. A special gold premium for display of statuary, to P. Mezzara.
17. Severance, Holt & Co.; Diamond Drill.
18. Weed & Kingwell; Brass Goods, Bells, etc.

Silver Medals.

1. E. W. Mitchell & Co., California-made angers.
2. W. K. Deitrich, hams, bacon and lard.
3. San Francisco Gas Company, manufactured ammonia.
4. James Hatch, for scroll work.
5. San Francisco Last Company, California-made lasts.
6. Craig & Savage, burial caskets.
7. Electrical Construction and Maintenance Company; electrical and telegraphic apparatus.
8. George D. Morse, colored photographs.
9. Carmen Island Salt Company, salt.
10. Pacific Pottery Company, pottery ware.
11. Pacific Glass Works, green glass ware.
12. Oakland Cotton Mills, burlaps and twines.
13. Eberhardt & Lachman, wines.
14. J. M. Eckfeldt, wire goods.
15. J. P. Goodwin & Co., furniture.
16. Charles O. Farcoit, milling lathe.
17. E. K. Howes & Co., wooden ware.
18. San Francisco Glass Company, white glass ware.
19. Main & Winchester, harness and saddles.
20. Haynes & Lawton, plated ware.
21. C. E. Watkins, photographic views.
22. Kimball & Co. general display of carriages and buggies.
23. California Powder Company, rifle and sporting powder.
24. Giant Powder Company, for giant blast ing powder.
25. John Roach, mathematical instruments.
26. W. D. Hooker, hand pumps.
27. Buckingham & Hecht, boots and shoes, California manufacture.
28. Nelson & Doble, for display of steel tools, their manufacture.
29. Howell & Low; "Harvest Queen" Harvester. California invention and manufacture. 1st premium.
30. D. Samuels, glove manufacturing.
31. Stow Pavement Company, wood pavement.
32. Will & Finck, special display of cutlery.
33. M. Price, general display of cutlery.
34. H. G. Hanks, display of minerals and fossils.
35. To Pioneer Ramie Plant, J. S. Finch.
36. To Oregon Woolen Mills, special silver medal for cassimeres; 1st premium.
37. T. C. Jameson, bar reliefs.
38. E. McGrath, marble mantels.
39. Knillman, Wagner & Co., leather display; 1st premium.
40. N. Scibert, Eureka Lubricator, a California invention.
41. Pacific Saw Manufacturing Company, best exhibition of circular saws.
42. Travis & Wagner, burr mill-stones.
43. Hill & Knaugh, gang plows.
44. J. G. Denny, marine painting.
45. Wm. L. Marple, landscape painting.
46. Misses Crane & Curtis, designing and engraving on wood.
47. Deacon & Co., for steam engine, special silver medal; 1st premium.
48. To the Women's Co-operative Union.
49. To the San Francisco Plating Works.
50. To Dr. A. Blatchley; for Light Percussion drill (California Invention of Merit.)
51. To Roach & Formhals; apparatus for condensing volatile metals.

Diplomas.

- D. A. Faulkner; punching machine.
Pacific Rolling Mill; display of wrought iron; special.
Thos. H. Selby & Co.; lead pipe and shot; special.
Rosenbaum & Co.; mirrors.
Job M. Seamans; jewelry.
Kohler, Chase & Co.; best cabinet organs.
Pacific Oil and Lead Works; lead, oils, etc.; special.

- Wm. McKibben; metallic wheelbarrows; 1st premium.
Calvin Nitting & Co.; metallic wheelbarrows. 2d premium.
Savage & Son; Empire range; 1st premium.
John Payne; forged and finished nuts.
G. A. Loyd; double-action spring hinge.
E. C. Hurlburt; patent com. door lock.
J. Scott; Sargeant Greenleaf lock.
Albert H. Laws; improved hinge.
J. Weichart; mower and reaper knives.
Emil Boesch; lamps, lanterns and reflectors.
Whiting & Murbur; window fastening.
Merrill & Samuels; safety lamps.
Swan, Dunbar & Co.; samples wooden boxes.
W. H. Jessup; bent wood school desks.
Jacob Strahle; billiard table; 1st premium.
Geo. E. Phelan; billiard table; 2d premium.
E. C. Hurlburt; invalid's bed.
J. T. Palmer & Co.; cabinet of minerals.
H. Liebes; display of furs.
S. P. Taylor; display of paper.
Bradley & Rulofson; display of large and plain photographs.
Bradley & Rulofson; best cabinet photographs.
N. M. Klain; best photographs of buildings.
Houseworth & Co.; photographic views.
Geo. W. Shourds; engraving on wood.
J. W. Taber; large plain photographs, 2d pr.
H. Royer; leather belting.
Hall's Basket Co.; display of willowware.
Figer Bros.; display of brushes.
August Friedhofer; beer barrels.
J. J. Knowlton & Co.; California inks.
Mrs. E. W. Cowles; bonnets and hats.
Mrs. Barringer; method of cutting clothing.
Miss Katie Conner; pretty shirt, made by hand.
Mrs. E. Morris; display of gent's furnishing goods.
Mrs. O. Van Denson; down capes and collars.
Miss E. J. Cryer; worsted work.
Miss M. J. Graham; tapestry picture.
Mrs. H. A. Williams; needlework. (Sutter's Fort.)
Miss Dick; tapestry and embroidered handkerchief.
J. C. Moody; improved tuck marker.
Pacific Straw Works; straw goods.
T. Rodgers Johnson; naval and military goods.
M. J. Morgan; collars, cuffs, etc.
Alexander Mackey; rag carpet.
Mrs. E. F. Pauline; fancy costumes.
Mrs. A. Cards; pillow cases, etc.
Mrs. E. F. Pauline; fancy quilt.
Miss M. Gibbons; parlor screen.
Miss E. Whipple; afghan.
G. E. Goodwin; anti macassars.
Mrs. Chamberlain; silk quilt. (log cabin.)
Miss P. V. Gibbs; chenille work.
E. E. Walker; worked baby shirt.
Mrs. E. Bartlett; bed quilt.
Mrs. E. Pritz; zephyr and worsted rug.
Mrs. E. C. Hurlburt; tatting.
Miss Addie Hyatt; silk quilt.
Mrs. E. Minturn; basket of worsted work.
Miss S. A. Nichols; handkerchiefs and collars.
Mrs. Phoebe Paul; silk cushion and quilt.
Mrs. G. Middlemas; fancy rag mat.
Villegia & Slotterback; shotgun and sporting materials.
Mrs. E. H. Watson; infant's sacque and quilt.
Mrs. J. T. Fowler; needlework quilt.
A. J. Anderson; patchwork quilt.
Mrs. Horton, Mrs. Truebody, Miss Coolidge, and A. R. Hynes; each for silk quilts.
N. Curry & Bro.; carbines and pistols.
Liddle & Kaeding; fishing tackle.
David Miller; finest hearse.
Taber & Cunningham; milk wagons.
Larkin & Co.; phaetons and trotting wagons.
J. H. Lawton; skeleton trotting wagons.
Henderson & Clark; grocery wagon and buggy.
Paul Friedhofer; brewers' wagons.
E. Sonle; farm wagon.
Talkingham & Sherwood; child's wagon.
Kimball & Co.; nickel plating.
Henry Lake & Co.; shoe blacking.
Hucks & Lumbert; axle grease.
F. R. Amos; soaps.
Painter & Calvert; pharmaceutical.
W. Goldstein; best display of Cal. manf. perfumery.
Standard Soap Co.; best display of standard and domestic soaps.
Eureka Match Co.; matches.
Mosheimer & Stewart; California borax.
R. F. Tooth & Co.; extract of meats.
Ross, Dempster & Co.; Australian preserved meats.
Boston Cracker Bakery; cakes and crackers.
Brignardello, Machiavello & Co.; vermicelli, etc.
P. D. Code & Co.; jellies and jams.
Erzgraber & Goetzen; sances, preserved fruits and meats.
W. H. Stearns & Co., California honey.
I. Landsberger & Co.; full exhibit of still and sparkling wines.
Geo. West; best sherry and port wines.
Dressel & Co.; best white wines from Mission grape.
C. Van Detten; best white wine from foreign grape.
M. Keller, best exhibit of wines and brandies.
A. Finck; best champagne.
Chenery, Souther & Co.; best exhibits of whiskies.
Albert Kuner; stone and seal engraving; 1st premium.
John Allen; stone and seal engraving; 2d pr.
Geo. W. Patch; stencil impressions; 1st pr.
F. M. Truworthy; stencil impressions; 2d premium.
Swain & Co.; display of fancy goods.

- Brown Valve Co.; valves.
W. I. Tustin; windmills.
W. E. Phillips; oiler for crank pins.
Geo. W. Dickie; models and drawings of composite vessels.
D. & H. A. Winter, combination seed sower and cultivator.
Hunter & Weister; improved grain separator.
R. Stone; novelty fanning mill.
Hoagland & Rees; Buckeye tobacco cutter.
Weister & Co.; power and hand corn puller and husker.
Thomas Wheaton; Buckeye hay cutter.
F. A. Huntington; flax breaker.
Wiggett & Co.; spruce, ginger, and root beer.
Tooth & Co.; best foreign ale.
Erzgraber & Goetzen; marble cider.
Swan Brewery; best ale and porter.
C. H. Foster; earthquake truss.
C. H. Foster; design for iron roof.
Geo. Schmidts; fine drawings.
Pacific Bridge Co.; model of Smith's truss bridge.
W. A. Field; model of gate.
J. H. Plath; carriage drawings.
Bones & Pierson; architectural drawings.
John Daniels & Co.; marble mantels.
Asphaltum Pressure Pipe Co.; Water Pipe.
Knowles' Steam Pump; 1st premium.
Wm. Carr; drawing of pavement.
Mrs. A. O. Cook; modeling in wax.
Mrs. M. G. Turner; wax work; 2d premium.
Mrs. M. E. Gerrish; best arrangement of fine wax work.
Mrs. Schmidt; best display of hair work.
Mrs. C. Cook; best display of hair jewelry.
Miss J. Gardner; display of wax work.
Mrs. Doherty; display of curls, chignons and hair work.
Mrs. A. D. Baker; leather work.
Mrs. Cotter; Decalcomanie.
Mrs. Anna Getz; best display of wax work.
Mrs. A. Bosworth; shell work.
Henry White; scrap book.
H. Kahn; artificial flowers.
Babcock's fire extinguisher.
J. T. Ford; hook and eye machine.
John Roach; mountain barometer.
Miss M. M. Henderson; photograph coloring.
Wm. Haskin's hydraulic pipe.
Boyd; California yeast and baking powders.
Miss Addie Whiting; paper flowers.
Peter A. Magnus; silver jewelry.
Oakley's Mills; meals, flour, etc.
G. W. Clark; hand loom for manufacturing wood shades.
W. L. Perkins; paper collars.
S. K. Dodge; buckskin gloves.
Joseph Bros.; display of boys' clothing.
Joseph Lancaster; custom-made clothing.
Samuel Figel; youths' military clothing.
J. Figel; display of men and boys' clothing.
Allen, Clark & Co.; parlor bed.
J. H. Culver; specimens of twist molding.
Allen, Clark & Co.; automatic parlor bed.
Etna Iron Works; steam water lifter.
Chas. Gentile; photograph from Arizona.
Button & Co.; inlaid tables.
J. Herzog & Co.; Eureka hair.
Crane & Brigham; best sulphate of copper.
M. M. Cook & Son; leather hose.
Dutton & Co.; improved harness.
J. H. O'Neil; glass cutting and staining.
Wilcox & Gibbs; best sewing machine work.
J. F. Engazi; pomades, hair oils and hair dyes.
Mrs. Eva Goldstein; ladies' and children's clothing.
J. Martenstein; improved water gauge.
Hartshorn & McPhun; window shades and roller.
G. D. Crocker; quartz mill.
Charles Pace; chronometers.
W. L. V. Parkhurst; scales; (Howe's Standard.)
Brittan, Holbrook & Co.; copper ware; Cal. manufacture.
Schmidt & Burkhardt; gilt oval frames.
Betts, Bunner & Co.; Gorham's combined broadcast seed-sower and cultivator.
Tay, Brooks & Backus; Japanned ware; 1st premium.
Brittan, Holbrook & Co.; Japanned ware; 2d premium.
Ellsworth & Washburn; folding school desk.
Edouart & Cobb; general photographic work.
Dettle & Beck; custom-made boots and shoes.
Edward Galpen Co.; trunks and valises.
Alfred Swingle; rifles and shot guns, Cal. make.
Hall & Wagner; California Bleaching soap.
Tubbs & Co.; California manufactured rope; special.
P. Kelley; display of fancy boots and shoes.
D. Norcross; regalia, etc.
Marden & Myrick; coffee and spices.
G. D. Gharadella; chocolate, coffee and spices.
Risdon Iron Works; steam winch.
Wm. Blair; model steam engine and boiler.
Skinner & Bonnet; imperishable pavement.
Miss Emma Newbauer; fancy work basket.
Mrs. C. O. FAVOR; embroidered underwear.
Miss Hattie Whiting; worsted work basket.
Broderick & Kast; custom made boots and shoes; 2d premium.
Chas. Strong; California cotton.
J. L. McFarlane; Australian exhibit.
F. Gruber; two cases stuffed birds.
J. Hartley; samples of wool, "Golden fleece."
M. Barthel; farm gate.
H. Rosekrans; sash tightener.
Thornton Westley; gem sofa bed.
Lubin & Goldstein; burners and lamp chimneys.
H. Behrendt & Co.; trunks and valises.
F. Nanns; linen tablecloth and napkins, California manufacture.
Crystal Salt Co.; California manufactured salt.
Hollihan & Burbridge; rustic window shades.
D. Mencarini; plaster busts and figures.

- M. Heverin & Co; fine statuary and marbles.
Miss Amelia Thomas; skill in silk reeling.
Mrs. J. D. Galloway, agricultural wreath.
Magdalen asylum; needlework; 2d premium.
Miss Rebecca Greenwood; paper flowers; 2d Gustavus Fagerstein; pastel picture.
Miss Armstrong; wax fruit and flowers.
J. G. Steele & Co.; Pharmaceutical preparations.
Dunn & Campbell; California made harness.
Mrs. M. Irelan; water colored sketches.
S. M. Gautier; steam scouring and bleaching.
John Burns; horse shoes.
Kohler & Chase; brass and string instruments.
Mrs. J. H. Nevins; hats made from pine leaves.
Weichart & Freese; furniture.
Chas. Otto & Co.; California made Hardware.
Geo. A. Brush; initiation of woods.
A. H. Nakins; neck ties and bows.
Casebolt & Kerr; improved carriage wheels.
P. D. Code; pickles, and canned fruits.
Mrs. E. Blanche; drawings, Kingstonian style.
Marsh, Pillsbury & Co.; blowers.
D. R. Provost; best California wine vinegar.
Miss Emily Eastman; coloring of photographs; 2d premium.
John F. Snow; dyeing and renovating process.
P. Merrill; carpet beater.
Crandall's improved spiral bed spring; 1st prem.
I. C. Woods; carbolic acid disinfectant.
F. B. Taylor; lubricating oil.
C. Gruchagen; wire work.
Special Cash Premiums—Essays and Reports.
W. Gouveneur Morris and H. C. Bennett; for essay on the manufacturing interests of Cal., \$400.
David R. Smith; for essay on the best method of transporting ores, \$100.
Solomon W. Jewett; for essay on cotton, \$100.
Dr. MacGowan; for essays on insect wax, grass cloth, artificial manufacture of pearls, feather work and tree tallow, all of China, \$200.
A. J. Bigelow; for best method of clearing and cultivating tule lands, \$100.

The San Joaquin Valley Fair—Premium Awards.

This Fair closed on Friday evening of last week. It proved a decided success in every department, and more than realized the highest expectations of its managers. At the close of the stock parade on Friday morning the award of premiums was as follows:—

THOROUGHBRED HORSES.

- John Butterby—First premium for best 3-year old stallion, "Nina Sahib." Andrew Wolf—Second premium for "Corret."
John Tyree—First premium for best 3-year old mare, "Carrie Miller." James Slatterlee—Second premium for "Parlee."
John Tyree—First premium for best 2-year old mare, "Bessie Lee." H. Stimpston—Second premium for "Bell Mahone."
T. B. Day—First premium for best suckling colt, "Red Dolly."
James Satterlee—First premium for best gelding, "General McDowell." J. E. Tyree—Second premium for "Modesto."

HORSES FOR ALL PURPOSES.

- Dodge & Noyes—First premium for best 3-year old stallion, "Chieftain."
J. W. Jones—First premium for best 2-year old, "Young Boston."
J. W. Tone—First premium for best one-year old, "New York."
G. W. Berry—First premium for best suckling colt.
L. U. Skipper—First premium for best 3-year old mare, "Lady Romwell."
T. B. Day—First premium for best brood mare and three colts.
J. H. Tone—First premium for best sweep-stake stallion, "New York."
C. H. Sisson—First premium for best sweep-stake mare, "Stockton Maid."
Thomas Griffith—First premium for best draft stallion, "Prince." S. R. Kingsley—Second premium for "Dock."

JACKS AND JENNIES.

- J. L. Cornduff—First premium for best Jack, "Peter."
J. H. Tone—First premium for best jenny.

THOROUGHBRED CATTLE.

- Colonel Younger—First premium for best 3-year old bull "Glencoe."
W. L. Overheiser—First premium for best one-year old bull, "Third Grand Duke."
Colonel Younger—First premium for best 3-year old cow "Sprightly." Ditto—Best 2-year old cow, "Shoo Fly."
W. L. Overheiser—First premium for best milch cow and calf, "Rosette."
Peter Saxe—First premium for one-year old heifer, "Lovely."

SHEEP.

- C. C. Baker—First premium for best Spanish merino buck.
Smith & Overheiser—First premium for best French merino buck; first premium for best Spanish merino ewe.
Peter Saxe—First premium for best collection of Cotswell sheep.

PREMIUMS AT THE PAVILION.

- This list is a long one. The following are a few of the number of first premiums:
A. B. Alexander—Best sample of California cotton—sample exhibited from Strong & Buckley's ranch. C. C. Baker—Best sample of wool. J. Putman—Best sample of hops. R. Traill—Best sample of wheat. J. J. Hitch-

cock—Best sample of fruit. Mrs. D. Ashley—Best dried fruit. G. West—Best sherry wine and best brandy. Liuden Mills—Best flour. Lane's Mills—best corn meal. Mrs. W. L. Overheiser and Mrs. Martin—Best samples of fruit of separate varieties. Freeman & Hamlet—Domestic soap. W. L. Keep—Best horse power. H. T. Dorrence—Best horses and saddle. Pacific Tannery—Best leather. Mr. Goll—Best crackers, etc.

Mathewson & Williamson—For best cultivator; also, for best gang plow and best single plow. Ernest & Graham—Best stove and tinware. Miss R. J. Bates—Wax fruit. Miss Ella Halbrook—Wax flowers. Mrs. S. F. Shriver—Cotton embroidery. Mrs. C. J. Smith—Crochet work. Jackson & Bliss—Steam boiler. R. Davis—Cabinet furniture. H. & S. Marks—Tailor work. Mrs. Inez Merrill—Bead work. Mrs. Wright—Hair work. Mrs. Felton—Machine sewing. Mrs. J. C. Gage—Needle work shirts made by hand. Miss Keyes—Millinery work. Mrs. Watterman—Mantua making. N. Enrich, C. Detton, V. Galgani, Martin V. Roch, J. R. Meyers, and J. Putman—Best grapes and fruit of different varieties. John Sutherland, John Sedgwick, J. C. Gage, H. S. Zimmerman—Different varieties of poultry.

Industrial Fairs for 1871.

CALIFORNIA.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

OREGON.

Oregon State Agricultural Society, at Salem, begins Oct. 9th, and continues six days.

WASHINGTON TERRITORY.

The Annual Fair of the Clarke County Agricultural and Mechanical Society will be held at Vancouver on the 19th, 20th and 21st of September.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Sept. 21st.

FLOUR—The market has been very quiet since our last report and a decline is expected, although prices have remained firm to date. The export demand is light and enquiry for home consumption only fair. Sales reported embrace 3,000 bbls. Cal. extra, 3,500 Oregon extra and 1,000 Cal. superfine, at current rates. We quote prices unchanged, as follows: Superfine, \$6.75@7.00; extra, in sacks, \$7.50@7.75. Standard Oregon brands, extra, may be quoted \$7.50@7.75.

WHEAT—The offerings have been more free than for some weeks past; but as the millers are still the only buyers, prices have suffered a decline. Sales embrace 25,000 sacks fair to choice at \$2.57½@2.70. We quote at the close \$2.50 @ \$2.62½—a decline of 12½c.

The Liverpool market is quoted at 12s 8d—a decline of 2d per cental.

BARLEY—A decline has taken place during the past week. Sales have aggregated about 25,000 sacks at \$2.05@2.25. At the close we quote at \$1.95@2.10. Choice brewing is held at \$2.05@2.10 per ctl.

OATS—The demand continues good at improved prices. Sales of 8,000 sacks are reported at from \$1.90@2.10 from fair to choice, which is a fair quotation at the close.

CORN—The market is about the same as last week. We quote at \$2.35@2.45.

CORNMEAL—Is quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—Last sales quotable at \$3.00.

RYE—In fair supply at \$1.95@2.25.

STRAW—Quotable at \$8@9 by the cargo.

BRAN—Has advanced to \$30.

MIDDLINGS—For feed are now selling at \$42.50 per ton from mill—market firm.

OIL CAKE MEAL—Is quotable at \$40 from the mill, and in good demand.

HAY—Small lot of wheat and wild oat brought \$22 per ton. Choice Wheat is quotable at \$22 ½ ton. There has been a good demand during the past seven days, and prices at the close are firm at \$18@23 for fair to choice ½ ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The receipts have been free and demand fair at 75@85c for Mission and 90c@1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$2.00.

HOPS—We quote new at 35@45c, a large advance; crop of 1870 is exhausted.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9½c. Sales during the week 1,301 Cal. dry, and 1,840 salted.

WOOL—There is no activity as yet to report in this market. Receipts large, and demands light, buyers not very willing to purchase to any great extent at present prices. We understand that a large number of American dealers have gone to Australia, with a view of buying largely. It is said to be doubtful however, whether they meet with any great success. Should such be the case we look for an increase in prices here. The sales for the week are about 50,000 lbs., at current rates. We quote fall clip at 28@30c

½ lb.—burry and inferior qualities being entirely neglected.

TALLOW—Market firm at 9¼@10c ½ lb.

SEEDS—Flax 3c. for clean; Canary, 8c., Alfalfa, 16c, Mustard 4½@6c.

PROVISIONS—California Bacon 14@15c; Oregon, 15¼@16; Chicago 14@14½c; Cal. Hams 14½@15; Oregon do, 14½@15c for clear sides and 16@16½c for light breakfast; California Sugar-cured Hams, 16@18c; Oregon do, 16@18c; Eastern do, 19@20c; California Smoked Beef, 14c.

BEANS—Market inactive, the following are jobbing rates: small White \$2.25; small Butter \$2.50; large do, \$2.50@2.75; Pink \$2@2.25; Bayo, \$3.25 ½ 100 lbs.

ONIONS—There is a little more tone to the market, which is given at 70@80c ½ 100 lbs.

NUTS—California Almonds, 10@15c for hard and 18@25c for soft shell; Peanuts, 7c; Pecan, 23@25c ½ lb., walnuts, 12½@15c, Hickory, 12c; Brazil, 16.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 9@10c ½ lb. Do 2d quality 7@8c ½ lb. Do 3d do 5@6c ½ lb.

VEAL—Extremes, 8@12c.

MUTTON—5@6c ½ lb.

LAMB—May be quoted at 8@9c ½ lb.

PORK—Undressed is quotable at 5@6c, dressed, 8c.

POULTRY—Live Turkeys, 18@20c ½ lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$3.50@4.00; Ducks, tame, \$5.00@6.00 per doz. wild \$1.50@3.50; Geese, \$10@12 ½ dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 40@47½c; California firkin butter, 30@32½c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10 @14c, Eastern, 12½@14½c.

Eggs—California fresh, 52½@55c.; and 45@47 for Coast consignments.

LARD—California Lard, 11-lb tins, 13½@14½c; Oregon in bbls. 14½c.; Eastern do. 13 @14½c.

FRUIT.

| | | | |
|------------------------------------|---------|---|---------|
| Tahitian Oranges..... | \$30 00 | @ | \$35 00 |
| Limes, ½ 1,000..... | 10 00 | @ | 15 00 |
| Australian Lemons, ½ 100..... | 5 00 | @ | 10 00 |
| Sicily do, ½ box..... | 10 00 | @ | 14 00 |
| Bananas, ½ bunch..... | 1 50 | @ | 3 00 |
| Cocoanuts, ½ 100..... | 8 00 | @ | 10 00 |
| Apples..... | 30 | @ | 1 50 |
| Pears, cooking..... | 30 | @ | 50 |
| Bartlett do..... | 1 25 | @ | 2 00 |
| Seckel do..... | 1 00 | @ | 1 50 |
| Peaches, ½ basket..... | 75 | @ | 1 50 |
| Choice Mountain do, ½ lb..... | 75 | @ | 1 50 |
| Quinces, ½ box..... | 75 | @ | 1 25 |
| Raspberries, ½ lb..... | 12½ | @ | 15 |
| Strawberries, ½ lb..... | 7 | @ | 9 |
| Plums, ½ lb..... | 3 | @ | 5 |
| Prunes, ½ lb..... | 5 | @ | 6 |
| Blackberries, ½ lb..... | 4 | @ | 6 |
| Figs, ½ lb..... | 7 | @ | 8 |
| Grapes, Sweetwater, ½ lb..... | 2 | @ | 3 |
| Mission do, ½ lb..... | 1½ | @ | 2½ |
| Rose of Peru do, ½ lb..... | 2 | @ | 4 |
| Black Hamburg do, ½ lb..... | 2 | @ | 4 |
| Muscad of Alexandria do, ½ lb..... | 3 | @ | 6 |
| Flame Tokay do, ½ lb..... | 3 | @ | 8 |
| Isabella do, ½ lb..... | — | @ | — |

DRIED FRUIT.

| | | | |
|----------------------|----|---|----|
| Apples, ½ lb..... | 6 | @ | 9 |
| Peaches, ½ lb..... | 9 | @ | 11 |
| Apricots, ½ lb..... | 9 | @ | 10 |
| Plums, ½ lb..... | 6 | @ | 8 |
| Pitted do, ½ lb..... | 18 | @ | 22 |

VEGETABLES.

| | | | |
|--------------------------------|------|---|------|
| Cabbage, ½ lb..... | ¾ | @ | 1½ |
| Garlic, ½ lb..... | 1½ | @ | — |
| String Beans, ½ lb..... | — | @ | — |
| Summer Squash, ½ 100..... | 1 00 | @ | — |
| Tomatoes, River, ½ box..... | 35 | @ | — |
| Bay do, ½ box..... | 75 | @ | 1 00 |
| Cucumbers, ½ box..... | 1 00 | @ | — |
| Green Corn, ½ doz..... | 12 | @ | 20 |
| Watermelons, each..... | 6 | @ | 8 |
| Cantaloupes, ½ doz..... | 40 | @ | 1 50 |
| Lima Beans, ½ lb..... | 2½ | @ | 3 |
| Marrowfat Squash, per ton..... | 5 00 | @ | 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more active. Cargoes of Oregon sell as follows: Rough, \$13@13½; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|----------------------------------|---------------|---------|
| Rough..... | \$15 00 | \$11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, headed..... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Siding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | — |
| Picket, rough, pointed..... | 16 00 | — |
| Picket, dressed..... | 22 50 | — |

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San Francisco Retail Market Rates.

FRIDAY, September 22, 1871.

MISCELLANEOUS.

| | | | |
|---------------------------|-----|---|----|
| Butter, Cal fr. lb..... | 45 | @ | 55 |
| Pickled, Cal. lb..... | 45 | @ | 50 |
| do Oregon, lb..... | 45 | @ | 50 |
| Honey, ½ lb..... | 25 | @ | 30 |
| Cheese, ½ lb..... | 20 | @ | 25 |
| Eggs, per doz..... | 55 | @ | 60 |
| Lard, ½ lb..... | 18 | @ | 20 |
| Sugar, cr., ½ lb..... | 10 | @ | 13 |
| Brown do, ½ lb..... | 10 | @ | 13 |
| Beet, do..... | 100 | @ | 10 |
| Sugar, Map. lb..... | 25 | @ | 30 |
| Plums, dried, lb..... | 15 | @ | 25 |
| Peaches, dried, ½ lb..... | 15 | @ | 25 |

PRODUCE, ETC.

| | | | |
|------------------------------|----|---|----|
| Codfish, dry, lb..... | 8 | @ | 10 |
| Flour, ex, 50lb. 7 50..... | 60 | @ | 70 |
| Flour, do, 40lb. 6 00..... | 60 | @ | 70 |
| Corn Meal, 100 lb. 3 00..... | 60 | @ | 70 |
| Wheat, ½ 100 lbs. 2 50..... | 60 | @ | 70 |
| Oats, ½ 100 lbs. 1 90..... | 60 | @ | 70 |

FRUITS, VEGETABLES, ETC.

| | | | |
|--------------------------|------|---|-----|
| Pine Apples, ½ 50..... | 90 | @ | 00 |
| Bananas, ½ 100..... | 3 00 | @ | 00 |
| Cal. Walnuts, lb..... | 20 | @ | 00 |
| Cranberries, ½ g..... | 75 | @ | 00 |
| Cranberries, Cr..... | 60 | @ | 00 |
| Apples, Early, box..... | 50 | @ | 25 |
| Red Astran, ½ 50..... | 25 | @ | 50 |
| Red June, ½ 50..... | 25 | @ | 50 |
| Pears, table, ½ box..... | 75 | @ | 25 |
| Plums, cherry, ½..... | 6 | @ | 10 |
| June, ½ lb..... | 10 | @ | 12½ |
| Apricots, Royal, 3..... | 3 | @ | 4 |
| Moorpark, ½ lb..... | 3 | @ | 4 |
| White, ½ lb..... | 2½ | @ | 4 |
| Cherries, lb..... | 5 | @ | 10 |
| Currants, lb..... | 8 | @ | 10 |
| Gooseberries, lb..... | 3 | @ | 8 |
| Raspberries, lb..... | 18 | @ | 20 |
| Strawberries, lb..... | 8 | @ | 10 |
| Blackberries, lb..... | 8 | @ | 10 |
| Oranges, ½ cwt..... | 30 | @ | 00 |
| Lemons, ½ cwt..... | 27 | @ | 00 |
| Limes, cwt..... | 25 | @ | 00 |
| Figs, dried, ½ lb..... | 25 | @ | 37½ |
| Asparagus, wh. 25..... | 37½ | @ | 00 |
| Artichokes, doz..... | 50 | @ | 75 |
| Brussels sprits, 25..... | 15 | @ | 00 |
| Beets, ½ doz..... | 20 | @ | 25 |
| Potatoes, ½ lb..... | 2 | @ | 3 |
| Potatoes, sweet, 2..... | 5 | @ | 20 |
| Broccoli, ½ doz..... | 15 | @ | 20 |
| Cauliflower, ½ 100..... | 1 00 | @ | 00 |

POULTRY, GAME, MEATS, ETC.

| | | | |
|--------------------------|------|---|------|
| Chickens, apiece..... | 50 | @ | 75 |
| Turkeys, ½ lb..... | 20 | @ | 25 |
| Ducks, wild, ½ p..... | 50 | @ | 75 |
| Tame, do..... | 1 50 | @ | 75 |
| Teal, ½ doz..... | 25 | @ | 00 |
| Geese, wild, each..... | 2 50 | @ | 3 00 |
| Tame, ½ pair..... | 2 50 | @ | 3 00 |
| From Chicago..... | 75 | @ | 00 |
| Hens, each..... | 75 | @ | 00 |
| Snipe, ½ doz..... | 10 | @ | 12 |
| English, do..... | 10 | @ | 12 |
| Venison, ½ lb..... | 10 | @ | 15 |
| Quails, ½ doz..... | 10 | @ | 15 |
| Pigeons, dom. doz..... | 30 | @ | 50 |
| Wild, do..... | 15 | @ | 50 |
| Hares, each..... | 40 | @ | 50 |
| Rabbits, tame..... | 50 | @ | 00 |
| Wild, do, ½ doz..... | 75 | @ | 00 |
| Squirrel, ½ pair..... | 25 | @ | 38 |
| Beef, tend, ½ lb..... | 20 | @ | 25 |
| Sirloin and rib..... | 18 | @ | 20 |
| Corned, ½ lb..... | 10 | @ | 12 |
| Pork, ½ lb..... | 13 | @ | 18 |
| Pork, rib, etc., lb..... | 12½ | @ | 15 |
| Chops, do, ½ lb..... | 12 | @ | 15 |
| Veal, ½ lb..... | 15 | @ | 20 |
| Cutlet, do..... | 20 | @ | 25 |
| Mutton chops, ½..... | 12½ | @ | 15 |
| Leg, ½ lb..... | 12½ | @ | 15 |
| Lamb, ½ lb..... | 18 | @ | 20 |
| Tongues, beef, ea..... | 75 | @ | 00 |
| Tongues, pig, ea..... | 15 | @ | 25 |

* Per lb. † Per dozen. ‡ Per gallon.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, September 21.

SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good.

| | | | |
|---|------|---|------|
| Santa Cruz Leather, ½ lb..... | 26 | @ | 29 |
| Santa Cruz Leather, ½ lb..... | 26 | @ | 29 |
| Country Leather, ½ lb..... | 26 | @ | 29 |
| Leading French stocks have declined slightly. California kips are higher and in demand. | | | |
| Jodot, 8 Kil., per doz..... | 80 | @ | 00 |
| Jodot, 11 to 19 Kil., per doz..... | 80 | @ | 00 |
| Jodot, second choice, 11 to 19 Kil., per doz..... | 80 | @ | 00 |
| Lemoine, 16 to 19 Kil., per doz..... | 95 | @ | 00 |
| Levin, 12 and 13 Kil., per doz..... | 60 | @ | 00 |
| Cornellian, 16 Kil., per doz..... | 72 | @ | 00 |
| Cornellian, 12 to 14 Kil., per doz..... | 65 | @ | 00 |
| Oregon Calf, ½ doz..... | 54 | @ | 00 |
| Mercier Calf, ½ doz..... | 65 | @ | 00 |
| Robert Calf, 7 and 8 Kil., per doz..... | 35 | @ | 00 |
| Common French Calf Skins, ½ doz..... | 35 | @ | 00 |
| French Kips, ½ lb..... | 1 00 | @ | 1 30 |
| California kip, ½ doz..... | 60 | @ | 00 |
| Eastern Wheel Stuffed Calf, ½ lb..... | 1 10 | @ | 1 25 |
| Eastern Bench Stuffed Calf, ½ lb..... | 1 10 | @ | 1 25 |
| Eastern Calf for Backs, ½ lb..... | 1 15 | @ | 1 25 |
| Sheep Roans for Topping, all colors, ½ doz..... | 8 | @ | 00 |
| Sheep Roans for Linings, ½ doz..... | 5 | @ | 00 |
| California Rust Sheep Linings, ½ doz..... | 5 | @ | 00 |
| Best Jodot Calf Foot Legs, ½ pair..... | 5 | @ | 25 |
| Good French Calf Boot Legs, ½ pair..... | 4 | @ | 50 |
| French Calf Boot Legs, ½ pair..... | 4 | @ | 00 |
| Harness Leather, ½ lb..... | 30 | @ | 37½ |
| Fair Hide Leather, ½ doz..... | 48 | @ | 00 |
| Writer Leather, ½ lb..... | 34 | @ | 00 |
| Welt Leather, ½ doz..... | 30 | @ | 00 |
| Buff Leather, ½ foot..... | 17 | @ | 21 |
| Wax Side Leather, ½ foot..... | 18 | @ | 29 |

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

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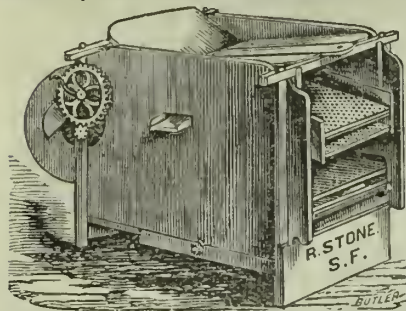
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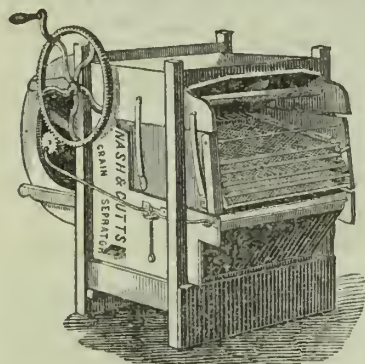
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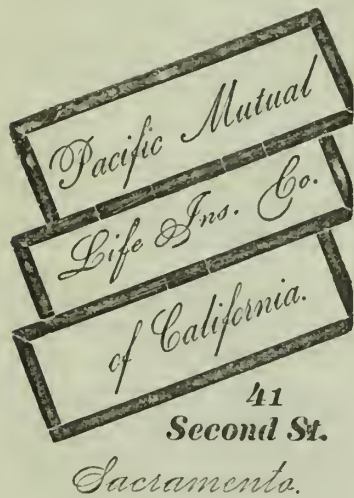
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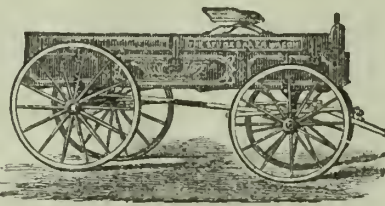
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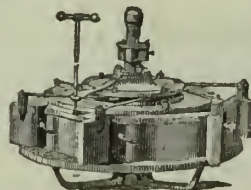
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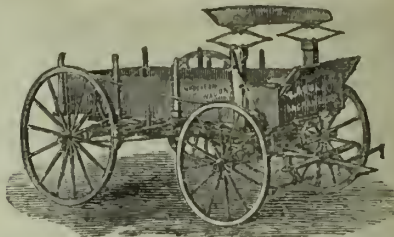
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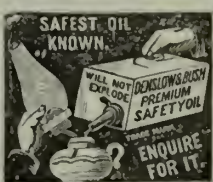
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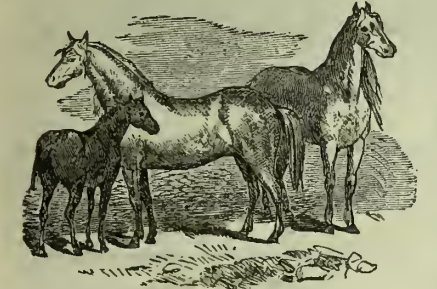
Will Not Explode!
Stands a hot test over 160°
Fahrenheit. We take ordi-
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and re-distill it by our new
process, rejecting fully 1/4
(Benzine and Tar), the
cause of all kerosene ex-
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OIL costs 1/4 cent per hour,
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upset and broken without fear of explosion or fire. The
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THE WHITE PRINCE!

The Percheron or Norman Horse, WHITE PRINCE, was imported into Ohio from France in July, 1870, accompanied by

A FULL BLOODED MARE.



White Prince was five years old last spring, and possesses the square, compact, solid form, with the good action of the Percheron race.

The Mare was bred in Ohio, from Imported Percheron Stock, and has been

Awarded Three Premiums

at the State Fair in Ohio (that is as often as she could compete), as the Best Mare in the State.

Louisa, at four months old, weighed 640 pounds; girths, 5 feet; weight is not a matter of great interest; but the square, compact, nice form which she presents, is a matter to be especially noted.

I also at the same time (December last) imported

TWO THREE-QUARTER BLOOD MARES,

one of which has a promising horse colt.

From the above it will be seen that I am able to raise Full Bloods and High Grades.

For any further information, address



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 SHEEP AND ANGORA GOATS. 

Offers a fine lot of all grades of RAMS for sale.

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The Great Equivalent.—The world may be safely challenged to produce so perfect a simulation of anything in nature, as

Tarrant's Seltzer Aperient

Is of its original, the Seltzer Spring of Germany. The Aperient, based on a correct analysis of the Seltzer Water, is even superior to the manufacture of Nature herself, because it contains all the active medicinal properties of the spring, unalloyed by any of the inert and useless particles found in all mineral fountains. THE GENUINE ARTICLE BEING SECURED, you have the Seltzer Water of Europe, purified and perfected, and probably the best, the most genial cathartic and antibilious preparation on the face of the earth.

SOLD BY ALL DRUGGISTS.



H. K. CUMMINGS, 1868.

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ESTABLISHED 1858.

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Our business being exclusively Commission, we no interests that will conflict with that of the produce

4v23-1y

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5v2-6m

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The invention consists of a ring of metal which is made conical in form and has its smaller end attached to the axle near the collar. The edge of the larger end projects into a groove, which is formed in the inner end of the hub, and thus effectually protects the collar and the axle-box from sand and dust. In the illustration, A is the hub of the wheel, B the axle, which may be fitted in any of the ordinary ways, C the collar, and E a ring of wood or metal, which may be put on by removing C. In the case of axles already made, or in new work, the ring may be slipped on before the axle is welded up. Town, County, Shop and State Rights for Sale.

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All who have badly-fitting plates can, by the application of this Attachment, wear them with perfect comfort and usefulness while eating, talking, etc. State, County and Office Rights for Sale.

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We claim that this machine will separate Oats, Barley, Chess and small seeds from wheat more perfectly than any other machine, and stand ready to prove it. We ask no person to buy who is not fully satisfied that it is superior to any other Cleaner in the market. They are manufactured at San Francisco, and at Rockford, Ill. The smallest size will clean three tons per day, and the largest twenty. Four different sizes are built, ranging in price from \$30 to \$100. Call and see the machines in operation.

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This is a No. 1 patent, and can be bought at a low price.

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With this machine three men can drive one mile of fence posts per day. Any farmer can build one.

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Purest White, and 100 Different Shades,

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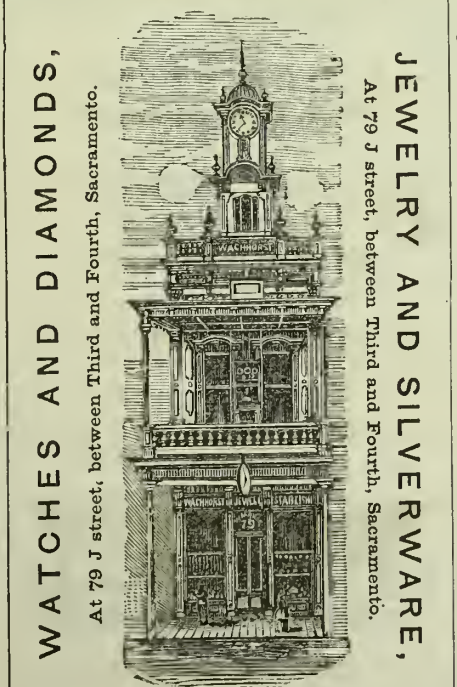
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JEWELRY AND SILVERWARE,

THE LARGEST AND FINEST STOCK OF GOODS AT THE VERY LOWEST PRICES.

Every article of Jewelry bought in this establishment WARRANTED strictly as represented.

Watches, Jewelry and Clocks Repaired BY THE BEST WORKMEN.

All orders from the country promptly attended to.

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REAL ESTATE AGENT,

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N. B.—Particular attention paid to the sale of Farms and Farming Lands.

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Corner 31st and J Streets, Sacramento.

N. CLARK & CO.

Would respectfully call the attention of Gardeners, Orchardists, Grape Growers and Farmers, to their new

Underground Irrigation Pipe.

This new method of Irrigation can be seen in successful operation in the grounds adjoining our work. One superiority of underground irrigation is plainly to be seen. With less than one-half of the water used in top irrigation, it produces twice the amount of crop.

We manufacture and keep a good supply of Earthen and Stone Ware, Jars, Butter Pots, Flower and Bean Pots, Jugs, Etc.

A specialty is made of Vitrified Iron Stone Water and Sewerage Pipe; size from 2 to 12 inches. Also Drain and Land Tile.

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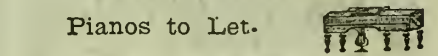
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W. R. STRONG, Commission Merchant,

And Wholesale Dealer in every description of SEEDS, California and Tropical Fruits, Nuts, Honey, and Agricultural Produce,

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Orders for all classes of Merchandise filled and forwarded with dispatch.

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SPaulding & Barto, Scientific Printers, Press Office, 414 CLAY ST., San Francisco.

Croft's Western World,

Devoted to the Railroad and kindred interests of the Great West, and to information for Tourists, Miners, & Settlers beyond the Mississippi.

PROSPECTUS.

The first number of CROFT'S WESTERN WORLD will be ready as early as possible on the 15th of October next, and will be issued regularly thereafter once a month. The object of the paper will be to represent fairly the railroad and kindred interests of the Great West, and to present in a concise and convenient shape such information concerning Climate, Soil, Productions, Railroads, Lands, Farms, Local Industries, and Routes of Travel, as will prove most valuable to Tourists, Miners, and Settlers in the vast area beyond the Mississippi River. There can hardly be a member of these three classes (and they comprise all who turn toward the "far West") who has not felt the need of some such paper; yet there is none of respectable pretensions, which has even attempted to occupy the field. So rapid is the march of improvement in that Great West, that a book, however valuable, is stale almost as soon as it is published. We believe, however, that a record which is written anew every month can keep up with even the restless strides of the track-layer and pioneer, and it is our intention that CROFT'S WESTERN WORLD shall furnish the traveler or settler in the West with just such information as he needs, and to have it not only accurate, but fresh.

The plan of the paper comprises

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2. Descriptions and illustrations of scenery, especially in the vicinity of the great lines of travel, together with hints to travelers as to the best means of reaching it.

3. Outlines of excursions to the various points of interest in the West, with details as to cost, etc.

4. Portraits and biographical sketches of the leading men of the West—the men who have widened its boundaries, built its railroads, and developed its industries.

5. Able editorial treatment of all topics pertaining to the plan of the paper.

6. A record of all progress and improvements in the science of railroading throughout the world. This department will describe new inventions and new processes in railroads, mining, and agriculture, and will in general be handsomely illustrated.

7. Suggestions for settlers.

8. Sketches and stories of life on the border.

9. We shall have our say on the "Indian question," and tell some startling truths, based on personal experience and observation.

The publisher, having long experience and extensive acquaintance in the West, believes that he is possessed of facilities for carrying out this plan fully, and, with confidence, introduces the WESTERN WORLD to the public.

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Subscription Reduced to \$2.50 per Year.

ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M. W. Grand Lodge, F. & A. M., of the State of California, at its Annual Communication, October, 1870. Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the Masonic Mirror, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said Masonic Mirror to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.

At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:

Resolved, That we recommend the Masonic Mirror, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the Masonic Mirror, published in this city be the official organ of this Grand Consistory.

TO ADVERTISERS.

The MIRROR presents the best Advertising medium on the Pacific Coast, as it circulates in every town and hamlet, and among a class of citizens that it will be advantage to advertisers to reach.

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Home Circle;

for few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information is faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
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Better Breeds of Stock;
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The Culture of New Products;
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Valuable and Timely Hints,

are given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

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As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxiliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Raisin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

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Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons; and our success and business are constantly increasing.

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In addition to American Patents, we secure, with the assistance of co-operative agents, claims in all foreign countries which grant Patents, including Great Britain, France, Belgium, Prussia, Austria, Victoria, Peru, Russia, Spain, British India, Saxony, British Columbia, Canada, Norway, Sweden, Mexico, Victoria, Brazil, Bavaria, Holland, Denmark, Italy, Portugal, Cuba, Roman States, Wurtemberg, New Zealand, New South Wales, Queensland, Tasmania, Brazil, New Grenada, Chile, Argentine Republic, AND EVERY COUNTRY IN THE WORLD where Patents are obtainable.

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Our long experience in obtaining patents for inventors on this Coast has familiarized us with the character of most of the inventions already patented; hence we are frequently able to save our patrons the cost of a fruitless application by pointing them to the same thing already covered by a patent. We are always free to advise applicants of any knowledge we have of previous applications which will interfere with their obtaining a patent.

We invite the acquaintance of all parties connected with inventions and patent right business, believing that the mutual conference of legitimate business and professional men is mutual gain. Parties in doubt in regard to their rights as assignees of patents, or purchasers of patented articles, can often receive advice of importance to them from a short call at our office.

Remittances of money, made by individual inventors to the Government, sometimes miscarry, and it has repeatedly happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. The principal portion of the patent business of this coast has been done, and is still being done, through our agency. We are familiar with, and have full records, of all former cases, and can more directly judge of the value and patentability of inventions discovered here than any other agents.

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Farm and Stock Ranch for Sale—a Rare Chance. The undersigned offers for sale his ranch, situated within two miles of the town of Sorrel, Mendocino county, containing 1,800 acres; 200 acres good farming land, 150 acres Russian River bottom, and 50 acres good upland, the remainder being good pasture land, and is well watered by Russian River. The whole is inclosed. I offer the same at the low price of \$8,000; would exchange for a good grape farm in Sonoma or Napa counties. Apply to JOSEPH E. CUNNINGHAM, Sorrel, Mendocino county, Cal. 12v2-1m

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Apples, Peaches, Plums, and a Full LINE OF NURSERY STOCK.

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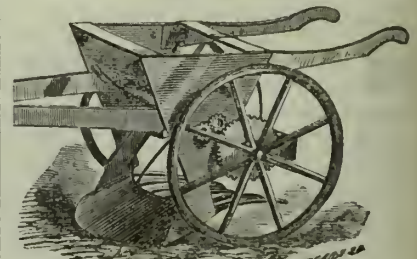
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This Trap, as may be seen, is of simple construction, and not likely to get out of order, and very durable.

It is Very Efficient

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\$1,000 TO \$5,000 A YEAR. AGENTS any section of the country, selling Dana Bickford's new and improved FAMILY KNITTER. This Machine is guaranteed (in its present completeness) to meet every want of the household for either domestic or fancy work. Price \$25. Send for circular and illustrated book. Address DANA BICKFORD, Vice-President and General Agent, 689 Broadway, N. Y.



Volume II.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 30, 1871.

[Number 13.]

Barthel's Improved Farm Gate.

No doubt many of our readers may have seen, at the late Mechanics' Institute Fair, the gate of which our engraving is a representation. To those who have not, however, some slight description will be necessary. The object of this gate is to allow a passage through the gateway without the inconvenience of getting in and out of a carriage or other vehicle. By the use of inventions like these, one need have no fear of restive horses, nor be compelled to get out and lift a heavy gate, by main strength, as is frequently the case, in order to pass through. You can drive up and by a slight pull on the rope the gate is opened; after you are inside, or outside, as the case may be, another pull on the other rope, and it is closed without the slightest exertion or trouble.

This contrivance consists of a gate having a horizontal axis upon which it turns, near the bottom, so as to remain steady when open. A post sufficiently high is placed near the end of the gate, and arms extend in either direction so that the operating cords will hang convenient for use when approaching from one side or the other. These cords pass over pulleys at the top of the post, and thence around a large wheel or pulley near the top of the gate, so that the wheel can be turned by them in either direction. An eccentric pulley is attached to this wheel, and the cords which move the gate pass around it, so that when the gate is first started the cords act upon the smallest radius of the eccentric, and thus have the greatest power. A sort of latch is so fixed as to hold the gate in place when open or shut, and the operating cords act on this latch and raise it before the gate is moved. By this device the gate is so balanced that it will remain in either position without being excessively heavy to open or shut. The counter-balance consists of a weight which is attached to an arm, wheel, or eccentric, and is so calculated as to nearly balance the gate in all its positions and allow it to be easily moved.

It will be seen there is no intricate mechanism in connection with this device, and that in fact there is no machinery whatever, since the whole contrivance is so poised as to be easily raised or lowered by simply pulling a rope. This being the case, there is no danger of it getting out of order, and the latch precludes the possibility of it falling when up, or being raised when down, without having recourse to the rope. When a neat and convenient gate like this can be easily procured it is a pity to see so many tumble-down ones as we do in traveling through the country.

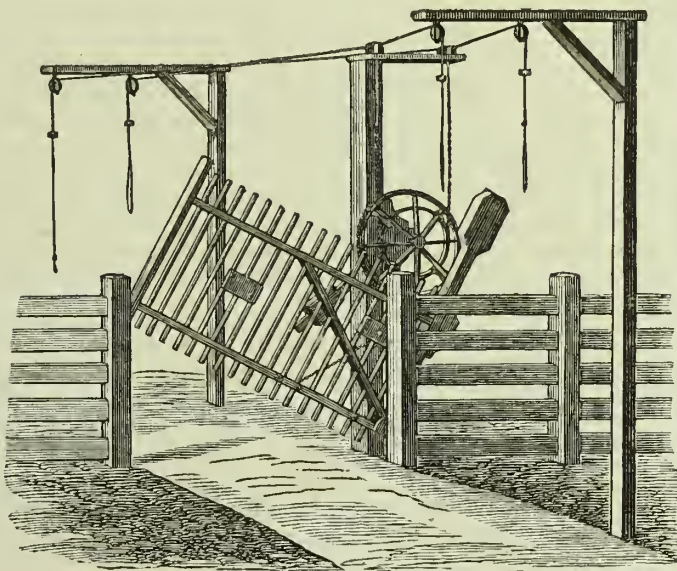
This invention, the patent for which was obtained through our agency, was devised by Michael Barthel, of Pacheco, Contra Costa County, Cal., from whom further information may be elicited by addressing us above.

It is said that hickory trees are dying all through Iowa, from some unknown cause.

APPROVED OF.—A lady correspondent of this paper suggested, some months since, referring to the burning of the Spotswood Hotel, and the loss of life consequent upon the firemen not being able to reach the upper windows with ladders, that strong hooks should project from the windows, especially those in the hall, to which, the egress by the stairway being cut off, might be suspended light ladders,—a succession of such ladders making practically an outside stairway; the ladders to be kept in the halls always ready for use. It may be interesting to our correspondent and others to learn that this suggestion has been widely copied by the Atlantic press, with many marks of approval. The matter is a simple one, and easily carried out any-

Improvement of Stock and Fruit.

One of the most gratifying facts brought out by the exhibitions of the present season is the evidence of thrift among our stock-raisers, and the unmistakable improvement which is being introduced into the "blood" of the Pacific Coast. Horses, cattle, sheep, pigs, poultry—all are in the way of decided improvement. Our farmers are beginning to realize the fact that it costs but little more to raise a horse that will bring four or five hundred dollars than it does a mere scrub worth less than one hundred dollars. So with horned stock and small stock of every description. Experience is beginning to show that cattle readily improve in this country, and a con-



BARTHEL'S IMPROVED FARM GATE.

where, and should be generally adopted in all buildings where such accidents are likely to occur.

THE POTATO BLIGHT is threatening great destruction to the crop in Ireland. It has made its appearance in many localities, and fears are entertained that it will become general. A potato blight in Ireland cannot, now, however, work the damage it has done in years ago, for the reason that much corn is now grown there, and the peasantry have learned to eat Indian meal. The corn crop is promising, and no fears are entertained there of being anything like a serious famine.

A BEAUTIFUL FLOWER.—That rare flower, *Espirita Santa* or Holy Spirit, in the southwest conservatory at Woodward's Gardens, in this city, is now in bloom for the second time. This, we believe, is the only specimen which has ever flowered in this city. The plant grows from a bulb as a lily, and bears a round white flower like an inverted cup; the bottom of the cup is like the head and beak of a dove, with the wings projected in front of the body, as in the descent of the Holy Ghost represented in churches.

COLORADO onions, it is said, weigh a pound, and taste like peaches.

fidence has been established, the tendency of which is to a more and still more general introduction of improved stock. Every importation of thoroughbred stock, though brought here necessarily at great expense, has proved a financial success, and sales are readily made at satisfactory prices. We trust the work of improvement will continue to go on, for by it money will be put in the pockets of all the people, and the Pacific Coast will become as famous, the world over, for her fine horses and cattle as she now is for her big pumpkins, fine fruit and rich mines.

What we have said of stock is almost equally true of fruit also. Our fruit-growers are beginning to appreciate the advantages of choice varieties. They find there is a vast difference where they send 50 or a 100 boxes of peaches or grapes to market, whether they get two or five cents a pound, and there is much more than that difference between the good and poor varieties of most kinds of fruit. Many of our grape-growers are renovating, by grafting their entire vineyards. The mistakes of early planting have rendered almost worthless many vineyards and orchards, which, with proper kinds of fruits, might now be of great value. No more mistakes of that kind will be made, and it is to be hoped that our markets will soon show nothing but the most approved varieties.

The Harvest is Over.

The gathering of the crops is about over, and the farmers are in the midst of the harvest holidays. Stock-growers are trotting out their best cattle, colts, sheep, pigs and poultry. How sleek they look, notwithstanding the dry season and the parched and unsightly appearance of the country! Improved mowers, reapers, threshers, plows; big pumpkins, squashes, potatoes, beets, and the very best of all other kinds of farm produce, are sent to the various fairs for exhibition. How much everything is admired by the throngs of men, women and children who go to the "show," and what crowds of people go there!

Paradoxical as it may seem, it is nevertheless true, so far, that though we have had a season of unusual depression, in every department of business, there never has been a year of such great success in our usual fall exhibitions. The show has been unusually fine, the attendance has been large, and the receipts have exceeded all former occasions—all of which is truly gratifying and indicative of the indomitable perseverance of our people, who are never discouraged at temporal hindrances, but rather make them the occasion of putting forth unwonted energy and determination. Such a people can never fail. It is just such that are needed to build up new empires of business and of thought.

Well, after so much hard work it is but meet and proper that our farmers should have a "play-spell"—a short period of rest, of enjoyment, and of recreation and observation. It always does people good to come together and compare notes and cultivate the social relations. It is by just such exhibitions as we are now enjoying, all through the country, that each individual of twenty or a hundred, engaged in the same pursuit, may possess himself of what the others have gained during the past year. It is not simply that one may learn of another; but that each may learn of all. Such gatherings will do us all good, and in a thousand ways. Would that they could be made even more general than they are. Intelligence would thereby much more increase, and mankind make better progress. Does the world shine on a better, happier or more intelligent or progressive people than are to be found on this Pacific Coast? If so, where?

OUR POPULATION.—Forty millions has been the figure generally set down as the population of the United States in 1870. The census figures report 38,500,000. We may fairly charge the war of the rebellion with the missing two and a half million, in the depreciation which it produced in the arrival of emigrants, deaths caused by violence, and disease contracted in the armies, and in the lessened rate of births.

TEA AND WOOL SHIPMENT.—Fourteen car loads of tea, 418 bales of wool, and 12 car loads of cattle were sent East from this port in a single day by the Central Pacific Railroad.

MECHANICAL PROGRESS.

Coal Dust as Fuel.

We have frequently, within the past two or three years alluded to the progress of experiments in utilizing pulverized coal-dust as fuel; always holding the matter to be of great industrial importance. It appears from the *Am. Railway Times* that the chief credit of this improvement is due to Mr. Whelpley & Storer of Boston, who have been experimenting in the matter for the last ten years, and that they have now about completed arrangements for introducing it into general use.

They have protected themselves with some 40 American patents, besides securing patents in most foreign countries. They have just sold to a company of capitalists the right to use their patents in New England; and are now negotiating for sales in California, Pennsylvania, Ohio and other States. Their patents cover devices for its use for puddling and other furnaces, and for locomotive, marine and stationary boilers.

They claim an economical advantage of 30 per cent. over ordinary fuel expenses for boilers, and from four to five dollars per ton economy in working iron. The advantage of such a method of burning coal, if it has been made practicable must be apparent to every one conversant with such things, and there appears to be high authority for the assertion that they have fully overcome all obstacles in the way of its practical introduction. We know of no invention of late years that seems to promise more than would the successful introduction of pulverized coal for steam fuel, and for furnace operations. We hope soon to be able to give a full description of the application of the invention.

Berlin Iron Castings.

The delicacy and beauty of outline characterizing the Berlin iron castings have given them a world-wide reputation. The minutest details are sharply defined, and the entire surface has an admirable bronze-like smoothness, resembling works of art. It has been generally supposed that this kind of work was made by mixing with the iron some metalloid, which has the effect of giving to the metal more fluidity and density; this appears, however, not to be the case—they being made of iron alone, and perfected in the processes of manufacture by the ingenuity of M. Schott. His attention, it is stated, was first directed to the importance of procuring the finest quality of moulding sand made by mixing burned clay with pulverized sandstone, having a maximum porosity. It has also the fineness of grain so essential for delicate moulds. The most important part of the process, however, is the preparation of the metal. M. Schott made a series of experiments to determine the melting point of different kinds of pig iron, and by mixing several in proper proportions, he found it practicable to vary the melting point at will. Indeed, his experiments proved that the melting point of different samples of charcoal iron, made at his own blast furnaces, varied more than eight hundred degrees Fahrenheit. The iron ore used by him is not different from that found in many other places. It is reduced in a series of small charcoal furnaces in the vicinity of the mines, which are situated in Northern Germany, near the town of Brunswick.

WATER AS A SUPPORT FOR BEARINGS.—Experiments have recently been made, with considerable success, in the introduction of water as a support for the journal of a shaft. Lubrication by water has often been practiced, especially upon car-journals, a continuous stream being directed upon the bearings; but although it is claimed to have proved entirely satisfactory in its results, reducing the friction and at the same time preventing the heating of the journals, it does not appear to have met with general approval among engineers.

The more recent modification of the method above referred to consists in forcing a stream under pressure beneath the journal, lifting it clear of the metal of the box. This has been done with excellent effect in the case of vertical shafts, a valve being introduced by which the water

escapes whenever the pressure exceeds a certain limit. If an ample supply of water is provided, it will thus constitute a steady and uniform bearing for the shaft, both the heating and friction being avoided. The friction is not actually done away with, in the strict sense of the term, but merely transferred to the pump by which the water is supplied and the upward pressure exerted on the journals.

A Piano Without Strings.

For more than a hundred years innumerable attempts have been made to discover a substitute for the string in pianos. Without the discovery of such a substitute, all attempts to construct a steel instrument would only be partial successes. The essential points in a new sound medium for this purpose, without either of which it would be useless, being, that it must furnish a compass of from six to seven octaves; that it may be operated upon by an ordinary pianoforte action; that it shall occupy no more room in the instrument (laterally) than the key board; that it may produce a tone at once pure, free from harmonies other than those necessary to produce the proper quality of tone or "tone clang," free from the disagreeable sound of the hammer on the sound board, and of the proper sonorous power; that the instrument constructed with such a sound medium may be simple in construction, not liable to get out of tune, to break, or deteriorate, nor occupy too much room, not be too heavy, and at the same time be cheap and durable, and that the sound medium may be mounted on an iron plate, and yet effect a communication with the sound board. All of these points the inventors claim for their new steel piano.

If these claims be fully established, a struggle between the steel hook and the steel string will commence, with the chances in favor of the former. That this new instrument must prove a formidable rival to the piano, the inventors claim is evident from the fact that unless the piano was not known to be so defective, no attempts would ever have been made to discover a substitute for the string.

The peculiar, unpleasant tone of the stringed piano is caused by the shock of the hammer on the sound board, imparted through the action of the tightly drawn strings. If this noise, so unpleasant to a fine ear, especially in old instruments, could be separated from the genuine tone of the string, the instrument would still be exceedingly weak in tone. In the instrument under consideration, this disagreeable noise is said to be obviated, as the metal plate only transmits musical vibrations, not noise.

The steel hook can also be used in combination with reeds, as it is the only sound medium of a full compass that will keep in tune with reeds. The power of the new instrument is said to be only limited by the quality and size of the steel hooks, the power of the action, the space within the instruments, and the quality of the sound board. The hooks are attached to a metallic frame or bridge, which is fixed to a sound board in a vertical position.

The *Scientific American*, from which we quote, says the acoustic principle adopted is scientifically sound, and is inclined to believe that a good and powerful toned instrument can be made in the manner indicated. Only one instrument has thus far been constructed, and that under the immediate supervision of the inventors themselves, Messrs. Thos. Atkins and Henry Dwyer, Cincinnati, Ohio, the accounts of which the *American* thinks are highly flattering to the success of the instrument.

WOODEN SHIPS.—A leading Maine paper, in a thoughtful and elaborate article on the subject of wooden ships, states that the depression in that class of shipping is represented as being much worse than it really is, and that the complaint that ship-building is dull and ship-yards are deserted, comes from outside of the United States, as well as inside. In Canada, where the alleged disadvantages under which our ocean ship-builders labor, do not exist, the business is fully as dull, and the papers of New Brunswick and Nova Scotia equally complain. In many places where ten vessels were formerly employed, hardly one is now used. The days when wooden sailing vessels were the chief vehicles of commerce are past, just as the old stage coach has been superseded by steam, and is now but comparatively seldom brought into requisition. It appears, too, that the profitableness of ship-building has been greatly overrated, and that the country has actually suffered but little from its decline.

SCIENTIFIC PROGRESS.

NEW MODE OF OBTAINING THE EXTRACT OF HOPS.—Mr. W. S. Newton, of England, has proposed and patented a new method of extracting the useful substance of hops. The process is based upon his discovery that the light products of petroleum, naphtha, etc., are rapid and complete solvents of the essential oils and of the bitter principle of hops, while at the same time they have no solvent action on the other constituents of the plant, which are either useless or hurtful. The hops are simply steeped in the naphtha, under a moderate heat. The apparatus employed is similar to that used for bi-sulphide of carbon when employed for similar purposes. The lighter hydro-carbons, those which boil at 100 degrees F., are preferable for this purpose.

DISTANCES OF FIXED STARS.—Prof. Safford read a paper before the late meeting of the British Scientific Association in which he proposed a new way to ascertain the distance of the fixed stars. He finds that the solar motion with which our sun is revolving around a center somewhere in the Pleiades, has a velocity six times as great as that of the earth in its orbit. As a base for the calculation of the distances of fixed stars, he considers the solar better than the orbital motion. He has observed for this purpose many groups of fixed stars, his general theory being that those stars which under observation show the greatest motion, are probably the nearest to us.

IMPROVING THE POTATO.—Mr. Simpson, an English scientific gardener, claims to have succeeded in materially modifying the character of the potato by, in some way, mixing it with the artichoke, and expresses his intention of displaying some specimens of his improved vegetables at the September meetings at Kensington. Doubts are entertained with regard to Mr. S.'s claims, although it is acknowledged that there is ample room for improvement in that direction.

TESTING BY MEANS OF THE BLOWPIPE.—According to the *Chemical News*, M. F. Jean states that sulphuret of sodium is one of the best blowpipe tests, if used in the following manner:—First, a bead is made with borax and the substance to be tested, and this bead, having been made very fluid within the reduction-flame, there is added to it some dry and pulverized poly-sulphuret of sodium, and the bead again heated in the reduction-flame. If the substance under investigation can form a sulpho-acid, there will be formed a soluble sulpho-salt and a clear bead; but when no such salt can be formed, with lead, for instance, an opaque bead will be formed. Iron, lead, bismuth, nickel, cobalt, palladium, thallium, silver, copper, uranium, etc., fused in a bead of borax, to which afterwards, sulphuret of sodium is added, yields a black or brown-colored opaque bead; zinc yields a white opaque bead; cadmium, while yet hot, scarlet red, and yellow after cooling; manganese, a dirty chesnut-brown; gold and platinum, a clear, transparent, mahogany brown bead; tin, a clear transparent yellowish brown bead; chromium, a green bead; arsenic and antimony, colorless clear beads; vanadium and iridium, blood-red beads.

THE BENEFITS OF SCIENCE.—The water used by the inhabitants of a certain locality in Philadelphia, among whom several cases of typhoid fever had appeared, was drawn from a shallow well, and was highly charged with various unoxidized compounds of nitrogen. It was suspected that, from some defect, the contents of a public urinal obtained entrance to the well. Professor Church obtained absolute proof by the following method. He introduced two grammes of a lithium salt into the urinal, and, two hours later, was enabled readily to detect with the spectroscope the presence of lithium in a litre of the well water, which by previous examination had shown no trace of this substance.

The Productive Power of Soils.

Dr. Væckler has recently given an interesting lecture on the Productive Power of Soils, in relation to the Loss of Plant Food by Drainage, from which we give the following extracts:—The lecturer began by showing the futility of the belief that a soil analysis could reveal whether a land was productive or not. The addition of 3 cwts. of good superphosphate to an acre of soil, 6 inches deep, increases the turnip crop in a favorable season, from 6 to 10 tons. Yet the percentage of phosphoric acid in the soil, was increased only 1-60,000th per cent. by the superphosphate. Chemical analysis cannot detect so small a difference.

The lecturer then discussed the relative values of various mineral salts as manures, quoting the experiments of Lawes and Gilbert, and his own examination of drainage waters. He had found that in whatever form nitrogen is applied to the soil, a large portion of it is always carried off in the drainage, chiefly in the form of nitrates. Nitrate of soda, especially, seems to be rapidly removed by the rain. It should therefore be applied late in the spring, in the middle of March in England. Farm yard manure gives the best results when applied late in the autumn. At all times of the year, but especially during the period of active growth of the crops, nitrates were found in the waters circulating in the land, while ammonia salts are never met in appreciable large quantities. It may be assumed therefore that it is chiefly, if not solely, from the nitrates that plants build up their nitrogenous organic constituents.

The analysis of these drainage waters, showed also that the potash and phosphoric acid are almost entirely retained by the soil, while the less important lime, magnesia, and sulphuric acid pass out more freely.

NEW FOSSIL CONIFERE.—The last Quarterly Report of the Mining Department of Victoria, Australia contains a matter of considerable interest to Science—a full diagnosis, for the first time given, of a new genus of fossil conifere, from the pen of Dr. Von Mueller. They were first found several months ago in one of the lodes at Haddon, by Mr. R. B. Smyth, secretary to the Victorian Mining Department, and during the past year a brief description of these fossils was sent by him for publication in the *Geological Magazine*. The genus has been named by the doctor, *Spondylostrobos*, and, as all the specimens as yet found belong to one species, it has been named after the discoverer, *S. Smythii*. Attached to the observations are a series of drawings of the fossil coniferous fruits found, of different sizes, which give a good idea of its general appearance.

NEW APPLICATION OF CHARCOAL.—A new application of charcoal has recently been made in England for the manufacture of a permanent enamel, or varnish for coating the insides of casks. The charcoal, which is made from the wood of *Salix Alba*, is reduced to a very fine powder, and mixed with proper proportions of shellac and methylated spirit. When ready for use it is laid on with a brush, and the inside of the cask is fired, so as to remove the spirit and leave only the lining of charcoal and shellac; it is then coated again and fired a second time, after which it is allowed to stand a short time before being used. This composition is said to form a perfect enamel, and while it prevents any chance of leakage it preserves the casks in an extraordinary manner. It answers admirably for beer and acids, and is largely adopted by some of our principal brewers.

SOME very interesting observations have lately been made on the properties of gun cotton. This substance, obtained with the ordinary process used by the manufacturers of collodion, is not soluble in alcohol; but, with the addition of a little camphor, it dissolves instantaneously. A beautiful artificial ivory is prepared by powdering gun cotton with camphor, and placing it under hydraulic pressure, covering it afterwards with a mixture of gun cotton and castor oil; by this process billiard balls have been produced, which have been declared by connoisseurs to be superior to those of real ivory.

TESTING LUBRICATING OILS.—Some ingenious inventor has contrived an apparatus to test the relative merit of lubricating oils. The point is decided by an indicator that registers the different degrees of heat produced by the action of the machinery during the test, the heat revealing the relative amount of friction, decides the merit of the lubricator used. The invention is to be patented.

HINTS FOR THE FARM.

A WOMAN'S IDEAS OF FARMING.

EDITORS PRESS.—Within the past six months it seems to have been a mania with many writers for the press, especially those who don't believe in Horace Greeley, to ridicule his last production in book form entitled, "What I Know About Farming." Now, I venture to say, that not one in twenty who attempt to be witty at Mr. Greeley's expense, have ever read his book, or have an intelligent idea on the subject of farming, themselves. They probably know that the ground has to be plowed and planted to produce potatoes or corn; possibly they know, that after the ground is prepared, grain is sown and harrowed in; but as to whether it is done with a harrow, hand-rake or fine-toothed comb, they are in a state of blissful ignorance. While they are enjoying themselves so well, giving Mr. Greeley's book a "dab" now and then, exposing their own ignorance in their shallow attempts at being sarcastic, others have gathered some useful ideas in reading his book.

Some have no idea that it makes the least difference whether the ground is plowed three inches deep or ten inches; or whether one kind of soil is more favorable for grain and another for vegetables; or that a rotation of crops prevents exhaustion of the land; neither do they know that the land needs rest like the farmer himself, and his work-animals. They do know there has been a drought the past two years in this State, and short crops and hard times, have been the consequence of it; but they do not know that by deep cultivation and irrigation, where it is practicable, the bad effects of a drought may in a measure be obviated.

Mr. Greeley don't pretend to be an adept at agriculture, he gives us the benefit of his experience of his farming in early life, which is certainly not encouraging; also in his maturer years on a hard piece of land, he bought for a home, near New York city, in Westchester county. He tells us how he reclaimed fifteen acres of swamp land from "utter uselessness," and made it produce 55 bushels of shelled corn, and two and a half tons of hay to the acre, exclusive of the rowen or aftermath. Being a native of New York State, living part of my life on a farm, I know that these crops were more than an average crop for that section of country; and it would be well for the Empire State, if there were many more intelligent, enterprising men to redeem its thousands of acres of the same kind of land from their unproductiveness, and make them support human beings and domestic animals, instead of being "dedicated to the use of frogs, muskrats, and snapping turtles,"—not to mention the improvement in the appearance of the country that would thereby be effected.

Mr. Greeley is frank to acknowledge his failures; tells us his mistakes, and needless expenses incurred, from a want of a proper knowledge of under-draining, and his employing unskilled labor. He also encourages subsoiling, irrigation, planting of trees, forest as well as fruit; but I cannot perceive anything egotistical in his manner of telling, "What he knows about farming."

I have not the least doubt but Mr. Greeley would gladly read a book written by any man, however humble, who knows more about farming than himself; and put in practical use the knowledge thus gained. He believes in telling what you have learned, if you have reason to think even a small number of your fellow mortals are benefited thereby.

John Johnson, of Geneva, N. Y., a practical, wealthy farmer, has been for years telling the farmers of New York, through the columns of the Albany Cultivator, what he knows about under-draining and its beneficial results. In California, where the soil more often suffers from a lack of moisture than a superabundance, under-draining may not be of that advantage to farmers, as to many farmers East, whose land has a hard-pan subsoil, which holds the water, makes the land wet and cold, and unfit for plowing till the first of May.

The past two seasons have opened the eyes of the California farmers to the benefits of irrigation and deep cultivation; and those who would rather be instructed by practical California farmers, can read what

Mr. Olden of Anaheim, and Carl Abbott of Salinas, Monterey county, and many others have given here as the results of deep by the side of shallow plowing.

If a woman who has traveled with her eyes open in California, from Los Angeles to Oregon, and who takes a deep interest in agriculture, may be allowed to express her opinion, I would say I believe shallow plowing is one of the curses of this State; that if the farmer bestowed the same time and labor on 100 acres of land they do now on 200, they would have less taxes to pay, less fences to build; it would cost less to harvest their crops, and, having only half as much of their capital invested in land, they could afford better buildings, and more improvements of all kinds on their farms, and realize more pleasure and profit from their investments.

The farmers of California need some one like Horace Greeley to din in their ears, a rotation of crops, and letting their lands rest, by summer following, pasturing, or improving them by fertilizers, or turning under green crops. As it is, the average yield of lands which have been cropped constantly with wheat or some other grain, is growing less every year.

Some soils may be stronger than others, and endure this bad farming longer; but bad habits tell on a farm, the same as with human beings; both break down sooner or later, worn out, vitality exhausted—"The candle has been burnt at both ends."

I did not attempt, Mr. Editor, to tell your readers what I know about farming, but to call their attention to Mr. Greeley's valuable book, and perchance induce some who are interested in Agriculture to read it.

The author has traveled extensively in Europe and throughout the United States, eager to learn what was worth knowing about farming, and everything useful, and he has striven to impart to his readers the knowledge he has gained, in a concise and instructive style.

Rabelais says he hunted a long time to find an old friend; at last found him living in a barrel; and all the knowledge he had of the outside world, he gained through one bung-hole.

Now any farmer who does not try to profit by his own experience, and the mistakes and successes of others, and to strive to improve both his mind and farm, is too smart to be taught by Mr. Greeley, or any other practical, sensible man, who has had superior advantages to himself, and is very likely to be about as valuable a person in the community as the individual who lived in the barrel and confined himself to the light and knowledge gained through the small aperture spoken of.

Should any be induced to read Mr. Greeley's book and not find anything in it, to interest or instruct; nothing of value, to retain in their memory and profit by; they have this saying of Mr. Greeley for their comfort and consolation: "The United States of America is a free country, those who have not common sense, are not expected to use it." Yours respectfully, M. A. S.

Stagnant Water Kills Cattle.

The process may be a slow one, but it is none the less sure, if long enough continued; and even for a short season, it tells to a certain degree upon the physical condition. To back up this opinion, we have no less an authority than the *National Live Stock Journal*. Persons who think that the contents of any swamp pools or any other pools of stagnant water are good enough for their stock, commit a great mistake. Stock of no description can thrive without ample supplies of water; and by the restlessness and suffering occasioned by a neglect to make suitable provision in this respect, the results of the most careful feeding and the benefits of the richest pasturage are often times entirely dissipated. Pastures should be located where they can have the benefit of running water or a suitable lake, for the quality of the water at this season of the year is a matter of prime importance. During the hot months, when vegetable decomposition is most rapid, and when stagnant water is undergoing active chemical change, no effort should be spared to provide stock with water that is reasonably pure. We know, says our authority, that it will involve considerable labor to draw water in the ordinary manner from a well where a large number of animals are confined in a single enclosure, or to bring the necessary water from adjacent streams. But where the matter does not admit of compromise by driving the stock to pure water two or three times daily, we believe it better economy to draw by hand what water they require, or to rig a windmill for the purpose, than to force them to drink from stagnant and fermenting pools.

THE HORSEMAN.

HISTORY OF THE PERCHERON NORMAN HORSE.

[Continued.]

EDITORS PRESS:—Another circumstance which, I think, has tended to perpetuate the good qualities of these horses, is the fact of their males being kept entire; a gelding is, I believe, unknown among the rural horses of France. You may be startled at this notion; but, if you reflect a moment, you must perceive that in such a state of things—so contrary to our practice and that of the English—the farmer will always breed from the best horse, and he will have an opportunity of judging, because the horse has been broken to harness, and his qualities known, before he could command business as a stallion.

There can be no possible question that the writer is correct in this view of the advantage, so far as breeding is concerned, of preserving all horses entire, ungelded; as it must naturally and necessarily follow, where a great majority of the males of any breed are gelded, when young colts, and a few only are selected, to some extent by chance, to serve as stallions, that many of the very best, and perhaps actually the best, of every year, are deprived of the means of perpetuating their excellence.

This undoubtedly, is one of the causes of the constant preservation, if not improvement, of the race-horse; that, inasmuch as thoroughbred colts are never,—unless from some peculiar cause, such as indomitable vice, deprived of their virility, the breeder has all the males of the race from which to select a stallion at his pleasure, instead of having only a small number from which to select. Yet even in the thoroughbreds the breeder sometimes has cause to regret the caprice or error of an owner, which has allowed a colt to be deprived of his sex, whose after qualities proved him to be eminently worthy and pre-eminently adapted to become the father of a noble line. Who, for instance, but must regret that St. Nicholas, that noble specimen of a race-horse, should be a gelding, and incapable of transmitting his blood and his powers to posterity. Now, the points of the peculiar breed known as the Percheron Normans are these:

First,—They are considerably taller than the Canadian horses, among which it is believed, the Percheron blood is still to be found, though degenerated in stature, from cold, exposure, and ill-usage. Their standard is from 14½ to 16 hands in height.

Secondly,—They are very short in the saddle-place, and comparatively long below; they are well ribbed up, and round-barreled, instead of having the flat sides and sway-backs which are the most defective points of many of the Canadians. They have not the heavy head and extremely short, thick neck of the old Norman horse; but, on the contrary, have the head short, with the genuine Arabian breadth of brow and hollow of the profile between the eyes and nostrils, which is often called the basin-face. Nor are their heads thicker, especially at the sitting-on place, nor the necks, which are well-arched and sufficiently long, heavier or more massive than corresponds well with the general stoutness of their frame.

Their legs are particularly short from the knees and hocks downward; nor though heavily haired, have they such shaggy fetlocks and feet as the larger Normans or Canadians, while they have unyielding, iron-like sinews and feet, apparently unconscious of disease, for which the other race is famous. An English writer in the *British Quarterly Journal of Agriculture*, speaking of the general working horses of Normandy, says:—

The horses of Normandy are a capital race for hard work and scanty fare. I have never seen such horses at the collar—under the diligence, the post-carriage, the cumbrous voiture or cabriolet for one or two horses, or the farm cart. They are enduring and energetic beyond description; with their necks cut to the bone, they flinch not; they put forth all their efforts at the voice of the brutal driver or at the dreaded sound of his never-ceasing whip; they keep their condition when other

horses would die of neglect and hard treatment.

A better cross for some of our horses cannot be imagined than those of Normandy, provided they have not the ordinary failing of too much length from the hock downward, and a heavy head. The two points, last named, are precisely those which are entirely got rid of in the best style of Percheron Normans, not deeply and thoroughly imbued with the Arabian, or to speak more correctly—Barb blood of Andalusia.

It is not easy to procure the best and fastest stallions of this breed, as they are bought up by the French Government for the diligence and mail service, for which they are highly prized, and in which they are constantly kept at a pace varying from five to nine miles an hour, over roads and behind loads which would speedily kill an English or American horse, without loss of health or condition.

Another peculiarity of this breed of horses is the fact that they are afflicted with the unsoundness so common to many of our fine-bred horses, such as spavin, curb or ringbone.

The above blemishes or unsoundness is held to be hereditary by horsemen. But for my part I think it is brought about to a great extent by injudicious crossing. For instance, take the large English draft horse, or Clydesdale horse, and put them, or their half-breed progeny, where they are compelled to plod through the snow three or four feet deep, or mud to their knees, for two or three months, and two to one you will have either curb, ringbone or spavin from that breed or cross. But on the other hand, you may take a mare with this same unsoundness and breed her to a Norman or Canadian horse of pure blood, and her progeny will be perfectly sound and free from those blemishes that afflicted the dam. These are facts that have come under my observation for the last twenty years.

Next week I will send you the conditions under which the Percheron or Norman horse is bred. A. WILSEY.

A CURIOUS TEAM.—A correspondent of the *Turf Field and Farm*, writes from Newburg, N. Y. under date of the 9th inst., as follows:—At the stables of John Dubois, in this city, a peculiar species of equines have attracted some attention for a few days past. They were a team of dromedary geldings; one a dark bay, the other a shade lighter, and both about a medium size and proportionately formed. The bunch on each is just behind the neck and shoulders, is about one foot high, and eighteen inches long, and resembles the dromedary very much. Their manes and rear extremities are clipped and trimmed a la "John Bottom" style, in order to give them a morsel of mongrel, or some wild, unbroken cross-breeding appearance. As we noticed them being driven through the streets to a wagon which contained two gentlemen, they presented quite a Quixotic curiosity for the natives, and produced universal comment as they trudged along slowly without any truculent air about them.

COMFORTS FOR WORKING HORSES.—A Western genius, prompted either by philanthropy or pelf, has patented a cover for draught horses, or those exposed to long travel that ought to throw into an ecstasy of delight the benevolent Bergh of anti-cruelty fame. He traveled 1,500 miles to New York, to dispose of his patent, and his team promenaded Broadway for the inspection of the curious or to catch a buyer for his patent.

The *Turf, Field and Farm* speaks of another patented head cover for horses, raised on a whalebone frame, with a revolving wheel, that, rotated by the movement of the horse, is supposed to add comfort to a hard working horse. If so, here is another simple plan that has novelty, if not decided utility, in its operation.

HALF-MILE TROTS.—"Bruno," one of Bonner's favorites, lately trotted a half mile in 1:05½, the fastest half-mile ever made by any horse except Dexter. The Stanford horse, "Wonder," trotted a half mile in 1:7½ after the conclusion of the races at Sacramento, on Saturday last, just to gratify the curiosity of the people, who were anxious to see him on the track. Who will say he is not able to do three seconds better if put to his best?

THE POULTRY YARD.

Classification of Breeds of Fowls.

Mr James H. Fry furnishes the *American Agriculturist* with the subjoined condensed classification of the various breeds of poultry, which classification the editor of the journal named is disposed to regard as "in the main doubtless; correct."

Prolific Layers.—Hamburgs, Spanish Leghorns, Polands.

Rapid Flesh-Makers.—1. Houdans, La Fleche, Crevecoeurs, and Dorkings; these four varieties are the true table-birds. 2. Cochins and Brahmas; these are more heavily framed than the first named under this head, and their flesh is not so white and juicy, hence we class them as inferior in this point.

Ornamental.—Bantams, Silkies, Sultans, Rumples, etc.

Non-sitters.—Houdans, Crevecoeur, La Fleche, Spanish, Polands, Hamburgs, Leghorns.

Sitters.—Cochins, Brahmas, Dorkings, Games.

Domestic and Quiet.—Brahmas and Cochins. These birds are very sluggish in temperament, and can be penned in with a fence three feet high.

Active and Vivacious.—1. Hamburgs and games. A fence twelve feet high will not restrain these varieties when startled. 2. Spanish, Leghorns, Dorkings, and the French varieties. All of these require a high fence to keep them in, though the Dorkings and French fowls, being heavy birds, cannot rise upon the wing as well as the Spanish and Leghorns.

Hardy.—1. Brahmas. These birds seem to endure the coldest weather without injury. 2. Houdans, Hamburgs, Spanish, and Leghorns. Except that their combs are liable to be frozen, the birds under this second division bear exposure well in winter.

Delicate.—La Fleche, Polands, and most of the Bantams and ornamental fowls.

FATTENING FOWLS.—Fattening geese and turkeys by cramming is not new. But there is a large establishment in France where ordinary fowls are fattened in eighteen days, by that process. They buy all the fowls they can get; when four months old, they have cages divided into compartments, each holding one fowl strapped down by the feet. One man feeds two hundred in an hour. The food is liquid mixture of barley, maize and lard, beaten up with milk. The feeder, three times a day, takes the fowl by the head, inserts a tube which connects by an elastic hose with the reservoir, and touches a spring, by which a registered dose is shot into the stomach. The cages are cleansed daily. Before killing, each fowl is confined in a dark room without food, for twenty-four hours, then enclosed in a bag leaving the head out. The neck is finally pierced with sharpened wire which produces instant death. The usual dressing being over, each is wrapped in wet cloth to cool. These fowls are prized; they sell in market for two francs a pound—equal to forty cents; the net profit is forty five per cent. We are indebted to *Diel's Farm Journal* for this information, and we commend it to the notice of our suburban farmers; as our Bay climate is unfavorable to raising fowls running at large and because we believe raising fat poultry is profitable.

A PROMISING INVENTION.—A genius by the name of Jeremiah Cory, of Holden, Missouri, has recently taken out a very novel patent. The invention consists in so combining and arranging a poultry roost with the gates of one or more beehives, that the perching of the poultry upon the roost, will serve to automatically close the hives. The object is, to ensure the closing of the hives at night, so as to exclude the bee-moth, and the opening of the same in the morning to permit the passage of the bees in and out during the day. The genius of our people is equal to all emergencies.

THE POULTRY IN THE SAN FRANCISCO MARKETS.—Market Inspector Bookstaver asserts that the poultry sent to the city markets this season is of a very inferior quality, that he has already condemned much of it, and that if farmers continue to send poultry of a like description to the markets, he will be obliged to condemn it by wholesale. The poultry raisers have not fed their chickens sufficiently, and the consequence is that the hens and roosters are not as fat and tender as desired.

Cure of Gapes in Chickens.

A correspondent of the *Rural World* writes to that paper, as follows:—I noticed an inquiry for a cure of gapes in chickens. Before a remedy can be applied, the cause of the disease must first be known. The cause of the gapes is undoubtedly a small worm, about three-fourths of an inch long, filled with a reddish fluid. I have taken these worms frequently from the windpipes of the chickens. If they can be got rid of, the chickens will get well. Sometimes there are from half a dozen to a dozen of these little worms in the windpipe, and sometimes not so many. I have cut the windpipe open, after the death of the chicken, and taken them out. Where or how these worms originate, I don't know, but I have found an effectual remedy for them. Having been in the habit of dissolving sulphate of iron (copperas) in water, and mixing shorts and bran or cornmeal in the water after it was so dissolved, for the purpose of destroying worms in horses and hogs, and it having always proved effectual, I thought I would try the same remedy for gapes in chickens. I found it successful, and all who have tried the remedy say it has proved successful with them. No internal or white-blooded worms can stand sulphate of iron dissolved. It destroys them at once, and it never harms the animal. Iron is a tonic, and is recommended by all physicians for that purpose. My way of giving it to chickens is, to keep the copperas standing in water, and then mix up the cornmeal in this water; and it is death to the worms that cause the gapes. Copperas can be got at every drug store, and a supply should be kept on every farm to give hogs and horses. I consider it a certain remedy for hog cholera, and have the first instance to hear of any farmer's hogs having the cholera who gave them a fair supply of it. It is sold cheap; can do no harm, and a stock should be laid in by every one. It dissolves in water like salt.

Choice of Breeds.

Some of our readers may be ready to ask: What particular breed do you consider the best? In answer we will say, that will depend altogether upon the requirements you wish to impose upon them, and subjoined we give you a classification of fowls which will explain itself and speak more voluminously than could these remarks if extended to a column or two.

Classification after Tegelmeir.

| | Layers..... | For Table..... | Hard-boiled..... | Activity..... | Size of Body..... | Size of Eggs..... | Setters..... | Non-setters..... | Summary..... |
|------------------|-------------|----------------|------------------|---------------|-------------------|-------------------|--------------|------------------|--------------|
| Houdans..... | 1 | 1 | 1 | 2 | 2 | 1 | 0 | 1 | 9 |
| Leghorns..... | 1 | 2 | 1 | 1 | 2 | 2 | 0 | 1 | 10 |
| Creve Coeur..... | 1 | 2 | 2 | 3 | 1 | 1 | 0 | 1 | 11 |
| Game..... | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 0 | 11 |
| Brahmas..... | 2 | 2 | 1 | 3 | 1 | 2 | 1 | 0 | 12 |
| Cochins..... | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 0 | 12 |
| Dorkings..... | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 0 | 12 |
| Malays..... | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 1 | 12 |
| La Fleche..... | 2 | 1 | 3 | 3 | 2 | 1 | 0 | 1 | 13 |
| Spanish..... | 1 | 3 | 3 | 2 | 2 | 1 | 0 | 1 | 13 |
| Polish..... | 1 | 3 | 3 | 2 | 2 | 2 | 0 | 1 | 14 |
| Hamburgs..... | 1 | 3 | 2 | 1 | 3 | 3 | 0 | 1 | 14 |
| Bantams..... | 2 | 2 | 2 | 1 | 3 | 3 | 1 | 0 | 14 |

1 Superior. 2 Medium. 3 Inferior.

FEEDING NETTLES TO LAYING HENS.—The *Vienna Agriculturist and Forest Journal* states that hens fed in winter with chopped and boiled nettle leaves, or with the seeds, and kept in a warm place, will continue to lay during the entire winter. The experiment was first suggested by noticing the eagerness with which both domestic and wild fowl devour the nettle leaves and seeds whenever the opportunity is afforded. This proclivity is believed to be the reason why, with the enormous yield of seeds on the part of the nettle, comparatively so few plants spring. It is stated also that in Denmark the seeds and leaves of the nettle are fed very carefully to horses, after having been collected and dried.

BUFFETING INTO FRIENDSHIP.—All sorts of expedients are adopted to prevent fighting when a fresh cock is turned down in a yard. We can suggest a very simple plan, which has the prime merit of being very successful. Tie an empty bag to the end of a long stick, and when the birds are intent on their encounter, buffet them with the bag one after another. If they are watched for a short time and this is done whenever they attempt to fight, they will give up their pugilism, really from "fear of the sack."—*Canadian Poultry Chronicle*.

PROUD OF THEM.—An old lady in Middletown, Conn., is proud of her twenty hens, which have collectively laid 499 eggs in the last three months.

NOTES OF TRAVEL IN SANTA CRUZ COUNTY.

[Written for the Press.]

At this time of the year the drive down the coast from Pigeon Point is a fine one, the dust being the only inconvenience; about six miles of the road are on the sea beach, which, when the tide is out, is as smooth as a race track. Sixteen miles from Pigeon Point is

Davenport Landing,

which is a shipping point for lumber, butter, eggs, lime, bark and leather. This is quite a little settlement, and should the place ever be favored with a railroad, a large town will be the result. The distance from here to Santa Cruz is 15 miles, with a varied change of scenery from the rolling breakers of the blue Pacific, to the lofty peaks covered with evergreen foliage.

The Santa Cruz Pebble Beach,

three miles below the landing, is small but with the same characteristics as the one at Pescadero, spoken of in my last letter. Scott's Creek, celebrated for its trout, is crossed several times on our trip down, and our good natured driver, halted a short time for our benefit, at Laurel Grove, which is a lovely spot for a camping ground for tourists on hunting and fishing excursions. From Davenport Landing to Santa Cruz is a succession of dairies. Holley & Terry, on a ranch within three miles of the latter place, are among the principal men in this line of business, and milk about 300 cows, averaging about 200 pounds of butter to the cow, annually.

Santa Cruz,

situated 86 miles south of San Francisco has a population of about 3,000. It is visited by thousands of tourists annually, a fine climate and good sea bathing being the prominent attractions. There are three hotels in the town, the Pacific Ocean House, Franklin House, and Santa Cruz House. Good board is obtainable at the former from \$2.50 per day to \$12.50 per week, and at the latter from \$1.25 per day to \$6.00 and \$8.00 per week. It is said that these hotels and the private boarding houses will accommodate from 500 to 600 strangers during the same day. There are three livery stables in the place, Scott Bro's., Huff & Swanton's, and Goodwin & Smith's; of the latter mentioned firm, Smith is a jolly boy and always sends his customers home with a smile. Santa Cruz is undoubtedly the cheapest livery town in the State.

Butchers.

Three butcher firms of this place, slaughter annually 750 cattle, 100 calves, 600 hogs, and 2,000 head of sheep, dressing nett, about 500,000 lbs.; (population, carnivorous).

Lime Kilns.

The principal business done here in lime is by Davis & Cowell, who are also proprietors of the wharf, and immense warehouses at Santa Cruz landing. This firm burns from 8,000 to 12,000 barrels of lime per month; they make their own barrels, raise and kill their own beef, and farm to the extent of some 5,000 bushels of cereals annually; they regularly employ from 75 to 80 men.

Tanneries.

There are three tanneries situated in close proximity to Santa Cruz, from which the best sole leather in this State comes, at least, it rates the highest in the market. The two principal ones are Kirby & Co., employing about 15 men, and E. Jones & Co., employing about 20 men. Both are run by steam power. The latter named firm turns out 36,500 sides per annum. The chestnut oak bark is the kind mostly used here for tanning purposes, and sells this year at from \$10.50 to \$11.00 per cord. Messrs. Jones & Co., have in operation at their tannery one of Fitz-Henry's scouring and hide-working machines; it is easily worked by one man, and readily does the work of ten, in better condition than can possibly be done by hand.

Grist Mills.

There are several within a few miles, only one, however, very near, that of Bennett, Larkin & Co., run by both steam and

water. They employ five men regularly and turn out 35 barrels of flour per day.

The California Powder Works.

These works are situated on the San Lorenzo Creek, 2½ miles north of Santa Cruz. This company regularly employ 100 men in the different departments of powder-making. They turn out annually 10,000 kegs of sporting powder, worth about \$7.50 per keg, besides blasting powder in proportion to the demand, worth about \$3.00 per keg. Their daily capacity is 650 kegs of 25 lbs. each. The wood employed here in its manufacture is principally alder and willow. B. Peyton, Esq., is Gen. Supt.

Paper Mill.

This manufactory, situated one mile below the powder works, is at present idle, for reasons probably best known to its proprietor, J. Sime, banker of your city; it is not, however, because it would not pay. Upon the whole, Santa Cruz is about as well represented, in a manufacturing way, as any town in the State.

L. P. MC.

SANTA CRUZ FARMERS' CLUB.

The Santa Cruz Farmer's Club met September 16th. President Mattison in the Chair. The President exhibited some apples—"Drops of Gold,"—which, on motion of himself were laid upon the table, and members invited to take them off again.

An animated discussion followed and the fruit was pronounced excellent.

Mr. Cahoon—"Why do we have to pay so much for shoeing horses, especially re-setting—50 cents each? A man can set 30 per day, easily, and the capital invested in his business is not more than \$1,500. The prices charged are exorbitant.

City and Country.

Mr. Daken—"I notice that our city visitors have plenty of money to spend. The men go hunting and fishing in fine carriages, while their wives and daughters go to skating rinks in silks and satins. Farmers—who are said to create the true wealth of the country—must be content with hard work and staying at home."

Mr. Locke—"The farmer must learn to keep and enjoy the fruits of his toil. While our city friends can buy our farm products at a low figure and sell at a high one, they will make money faster than we can; and when they visit us will laugh at our shabby 'turn out,' our thread-bare clothes, and bare floors. Perhaps they will ask: 'Why don't you have a carriage, and a better team? Why don't you have carpets, and a piano? Why don't you have a heathen Chinese in the kitchen, and elegant leisure for yourself, wife, and children?' These are nuts for us to crack, if we think it worth while.

Seed Wheat.

Mr. Mattison—"I propose that such members as are interested in wheat-growing send to Australia for 1,000 lbs. of seed.

Mr. Morgan—"I think the better way is for each to raise his own by first sowing a small quantity (very carefully selected,) at a safe distance from any other. When harvested, select again the best for seed the next year, and so on till enough is obtained. In this way we will get a pure article and already adapted to our climate.

Mr. Swain—"I would much rather send for it at once." [Several members agreed to send, as suggested by Mr. Mattison. Inquiries were made as to other varieties tried in this county.]

Mr. Mattison—"I have tried Hallitt's pedigree and the Giant—both too late and rust badly. Have also tried the Boughton kernels—too much exposed in this dusty country and look badly when thrashed. The kernels are also very unoven. This variety was sent from the Patent Office."

Mr. Locke—"Can you not find pure Australian wheat in this State?"

A Visitor Announced.

At this stage Mr. L. P. McCarty of the *PACIFIC RURAL PRESS* was introduced and made some very appropriate remarks as to the benefits of Agricultural Societies. He also said that in regard to the matter under discussion, we could get all needed information by addressing Mr. Reed, Pres-State Ag. Society, or could probably get any desired variety of seed by sending to the Patent Office. Yet in this varied climate we can only find by experimenting, what is best for any particular locality. It is found that the raisin grape (Fisher

Zagos) which succeeds very well indeed in the foot-hills, is a total failure in the great valleys, while with other things it would be the reverse. So you must find out for yourselves, by experimenting upon your farms and by counseling together as you are doing to-day, what varieties of seed, what methods of cultivation, and what breeds of stock are best for you."

Brush in Pastures.

Mr. Locke—"The *American Agriculturist* recommends annual burning and seed-sowing as the cheapest and best method of subduing brush in pastures."

Mr. Caheon—"We have tried that and the brush seems to rather like it. Goats too, I have noticed, and I think the brush will outgrow the goats. We are now cutting brush for the third time. Gophers, squirrels, and brush are my most persistent enemies."

Mr. McCarty—"Santa Cruz can certainly boast of her lime and leather, both in quantity and quality."

Mr. Locke—"And this also has significance for agriculture. Where lime is abundant, and tan-bark oak grows, must be good soil. D. M. L."

AGRICULTURAL NOTES.

CALIFORNIA.

LARGE PURCHASE OF FARMING LAND.—The Arroyo Seco Rancho, located in the counties of Amador and Sacramento, embracing 41,000 acres, and including the valleys of Ione, Jackson Creek and Dry Creek, says the *Stockton Independent*, has been purchased by W. S. Bailey, a resident of the State of Nevada, Hart & Goodman of San Francisco, and Thomas Sedwick of this city, for the sum of \$175,000. The new owners got possession of the premises last Monday, 18th inst., and they have sold six farms since that time. There are about fifty well-fenced farms under a high state of cultivation, with houses, barns, orchards and vineyards, containing choice corn, wheat and vegetable lands, which, even in this dry season produce splendid crops. The remainder of the grant embraces 35,000 acres of good farming, grazing, vineyard and coal lands, distant only twelve miles from the Western Pacific Railroad. The rancho embraces the thriving city of Ione, also the well-known and prosperous mining camps of Muletown, Irish Hill, Hazeville, Badgerville and Buena Vista, and every portion of it is well supplied with water and timber.

THE LOS ANGELES WINE CROP.—Preparations, says the *Los Angeles Star*, are being made for the approaching grape harvest, the gathering of the grapes and the making of wine. Most of the vineyards are under contract and we believe the prices obtained are considered satisfactory. We hear that a dollar a hundred is the prevailing rate, which is an advance on last year's prices, which averaged seventy-five cents. We have been informed that an agent is purchasing extensively for Curtis, who intends to make brandy in the Gravets distillery, on the bank of the river. The crop is fully an average one, though not as large as was anticipated during the flowering season. It is said the grapes are unequal, a large portion not having filled out to the usual size. However, as there is always something to be rated as a drawback, we have confidence that the vintage will be a successful one, both as to quantity and quality.

THE ACORN CROP.—The acorn crop is very heavy this season over the hills, from Bear river to Yuba. This belt is about sixteen miles wide and twenty miles long, perhaps longer, on which there has been no mast of any importance since 1863. Mr. Houser, who resides in Linda township, which contains a portion of the belt, brought to this office a sample of the belt in shape of a small limb broken from a tree eighty feet high, having a very full rounded "lap" or top. This tree will produce from 125 to 150 bushels. The small oak bushes along the foothills are loaded with acorns, and the oaks along the river are also loaded. Farmers have commenced driving their hens to this rango already, and in a short time there will be stock enough in the timber to take care of the crop. It will prove of great advantage to the owners of stock, for the high price of grain will not permit of feeding hogs at a profit on barley or corn. Providence has provided for the loss in grain by the increase of other food, at least as far as hogs and woodpeckers are concerned. A good mast year does not occur very often.

THRESHING, say the *Watsonville Pojaronian*, is nearly completed in this vicinity,

and every day there are to be seen numerous teams loaded with grain, passing slowly through town to the railroad storehouse or to the various landings. Farmers have prospered in this section the past season, and all are cheerful with the success of their labors and the picturing of hopes in the future. Success to them all, say we, for their labors are arduous and first in importance in the world.

HOME-RAISED HOPS.—The *Stockton Independent* urges more extensive cultivation of the hop in that vicinity. It says that numbers of experiments in that branch of industry proved successful on the low land bordering on the Mokelumne river. Several excellent crops have been produced near Woodbridge. A sample of hops, one bale of 242 pounds, exhibited at the late Fair by Joseph Putman, was an evidence that there is no further necessity of sending abroad this article. In addition to supplying the home demand, an immense quantity might be raised for transportation.

THE FIRST PINE APPLE.—The *Los Angeles Star* of a late date says: "We had the pleasure of receiving yesterday, from Rev. Father McGill, President of St. Vincent College, the first pineapple ever raised in Los Angeles. It was raised in the college where are also bananas and all the choice fruits, growing luxuriantly. The pleasure of receiving the first pineapple from so distinguished a gentleman was greatly enhanced by the fact that it was brought us by the hand of one of those blessed Sisters of Charity, whose mission is to go about doing good, and whose kind and charitable acts rebound to the credit of humanity in general."

It is hoped that in a few years there will be a plenty of pineapples grown in Southern California. Why not?

PROLIFIC SOIL.—The *San Diego Union* of the 14th inst. says: We were shown some potatoes yesterday, from the ranch of Charles Menzer, in Paradise Valley which are part of a second crop raised on one patch of ground this year. The potatoes, although from the same seed as the original crop, are large and fine looking. Menzer's vineyard is one of the finest in the county, and produces without irrigation the most choice varieties of grapes. Some unusually large bunches are on exhibition at the Horton House, among which are Muscat of Alexander and Black Hamburg, nearly as large as a plum. The well upon the premises of Mr. Menzer is 75 feet deep so it may be safely inferred from this that grapes will do as well upon mesa lands as any other.

HAY IN THE MOUNTAINS.—The *Alpine county Chronicle* says: Our Farmers have this year secured good crops of hay, and will be well remunerated for their labor, the article being worth, on the farm, \$30 per ton. This is good for the farmer, but rough on the hombre who has to carry much stock through the Winter.

FRUIT IN NEVADA Co.—Apples says the *Nevada Gazette* are to be seen here in great abundance, and seem the favorite fruit. Now the apples in Nevada county are certainly far better than those nearer the coast, but still they are not as fine as the Eastern apple, while the pears and the peaches of this region are of far higher flavor and beauty, than any we have seen elsewhere. Yet the apple seems to be the great favorite. We do not believe Nevada will ever be a grain raising county, but it may well be one of the finest fruit growing counties in the State. The mining interests must always take the lead, but there is no reason why other interests should not also be fostered in our county.

NEVADA.

EFFECTS OF THE RAILROAD.—A correspondent of the *Willamette Farmer*, who has been making a trip over the C. P. Railroad, says the road has certainly demonstrated one thing—that the "desert" land along the Humboldt is good for something else than raising sage brush and grease wood. At Humboldt station the proprietor has as fine a garden as the heart would wish. It is situated among the sage brush, but has an abundance of water from the adjacent mountains for irrigation. Vast herds of cattle are grazing on the grassy bottoms of the river. The cattle are shipped by rail to Chicago, and a handsome profit derived by the ranchmen therefrom.

MORE SHEEP FROM CALIFORNIA.—Capt. Stiles of Colusa county in this State, arrived at Elko on the 25th inst., with 3,000 head of sheep, which he intends wintering near that place. The sheep are said to be in better condition than when they left Colusa.

FRUIT GROWING IN NEVADA.—In every

instance, says the *Winnemucca Reporter*, the experiment of raising fruit in Nevada has been crowned with success. A few days since through the politeness of Mr. Meachem, one of the proprietors of the Humboldt House, we were shown through his beautiful gardens. Among other shrubbery there are over one hundred thrifty young fruit trees growing. These trees were set out less than eighteen months ago, and all will bear more or less fruit this year. On one small tree which we noticed more particularly than any of the others, there were six beautiful apples, each as large as a teacup. Mr. Meachem thinks by another year he will have fruit to sell. The Humboldt House and its surroundings are like an Oasis in the desert, and is unquestionably the most beautiful place to be found between Reno and Salt Lake.

FARMING ON THE HUMBOLDT RIVER.—A correspondent of the *Silver State* gives the following items with regard to farming operations along the Humboldt river in Nevada:—

Casually and unexpectedly I found myself in Eadon Valley, and sojourned for a day or two at the extensive and fertile ranch, belonging to J. C. Fairbanks, situated about 15 miles north-east of the latter named famous grass lands on the Humboldt river. The crops were good this season at the former named farm.

Twenty acres of the celebrated Ramsdale's Norway oats have recently been harvested, which crop proved a decided success; in fact, those oats are all that have been claimed for them. They were first introduced in this county last season by T. G. Negus, of your town, who from one bushel of seed raised 60 bushels of oats, and that under unfavorable circumstances; and this year they yield from 85 to 100 bushels to the acre, when only 30 pounds of seed to the acre were sown, and are of the best quality.

For the past two months the country has been rapidly filling up with cattle and sheep. Scarcely a day passes but clouds of dust can be seen rising from bands of stock winding their way up the old Humboldt, seeking pasturage upon the hills and valleys of eastern Nevada. Most of this stock has been forced to leave California on account of the drouth, and from their long and tedious journey over the mountains and across the desert are very poor, and should we get a severe winter, as many predict we will, much of this poor stock will perish.

The lands along the Humboldt are fast being bought up by stock men and speculators, and shortly the valley of the Humboldt will become thickly settled and much of the land reclaimed and cultivated. Stock men can be seen almost daily hunting up United States survey corners and taking down numbers, and soon all the bottom lands along the river will be settled upon or fenced.

OREGON.

MARION COUNTY.—Mr. D. Newsom writes the *Willamette Farmer* that the grain in Marion county is nearly all harvested. The fall wheat is over an average crop; but the spring wheat under the average. The entire crop is set down at 20 bushels to the acre. Oats will average 25 and potatoes about 40. Ben Holladay's railroad will open up a new era to the valley.

WASCO COUNTY.—Active preparations are being made for the fair in this county. The officers of the society are doing all they can with the limited amount of funds at their command, to get every thing in splendid order. From all that we can learn, says the *Montanian*, it is our impression, that the Fair is going to be well attended and that, if possible, it will exceed the one of last year.

AGRICULTURAL PROGRESS IN OREGON.—A correspondent of the *Bulletin* of this city, writing from Clear Lake, Oregon, says that portion of the State is rapidly building up for itself a high reputation, for the production of wheat, and will soon be equally distinguished for its herds and dairies. From Portland on the north to Ashland on the south there is an uninterrupted stretch of 300 miles suited to every class of Agricultural productions.

Southeastern Oregon, has a wonderful adaptation for raising cattle and sheep, throughout an extent of 200 miles in length by 150 broad. It abounds in a great variety of natural grasses upon which all kinds of stock thrives. It is estimated that there are at least 1,000,000 head of horned stock and as many sheep now grazing in that region. The county possesses peculiar advantages for the dairy business, which will no doubt be largely engaged in as soon as the necessary facilities for transportation are furnished. It is said that one-year-old calves here are as large as

those two-year-old in other sections of the county.

WANTS A GUIDE BOOK.—A correspondent of the *Willamette Farmer* thinks there ought to be a guide book got up for Oregon, an scattered along the various railroad routes of the Pacific Coast and along the overland road. Nobody, he says, knows where Oregon is—that there is scenery there far surpassing the sickly illustrations of scenery in California on the Central Pacific—that the Columbia is the grandest river of the west—that the climate is a thousand times more desirable than that of California in the summer season; in a word, the tourist learns nothing of Oregon until he reaches San Francisco, and not then till after he has refused to visit all the places of resort of any celebrity in that State. Of course Oregon should have a guide book. The *PACIFIC RURAL PRESS*, however, is doing all that it reasonably can to supply the deficiency, by telling the world of the wonderful agricultural capacities of the State.

MONTANA.

The *Pioneer* of Mousoula City furnishes the following items with regard to the agricultural productions of the Montana locality:—Our Bitter Root Valley farmers have succeeded admirably in the vegetable business this season. Last week while on a visit to the Bass Brother's farm, we were shown a patch of the Missouri Dent corn, thoroughly filled and matured, and much of it then ripe. They estimate that it will yield 60 bushels to the acre, and have demonstrated the fact that it will pay to cultivate this corn in this valley on a large scale.

Mammoth potatoes of the Early Rose variety, were shown us, some 6 inches in length. In the hill they were so crowded as to be almost bursting through the surface. One squash was exhibited that they estimate will weigh 100 pounds, and cabbage heads not grown that would hardly pass into a flour barrel. Water melons, cantelopes and musk melons, lie about *ad libitum*, and onions in abundance from 4 to 6 inches in diameter. Mr. W. E. Bass has been experimenting with the different variety of fruit trees—apple, peach, pear, cherry, etc—all of which are doing well. This is their first season, the cuttings and grafts having been sent from the East last spring by mail.

They have harvested about 100 acres of wheat and oats this season, both of which are super-excellent. They sold 1,200 bushels of wheat to Messrs. Worden & Higgins, at \$1.75 per bushel, delivered at the farm. Their buckwheat is not yet ripe.

The above details respecting qualities of products and general results will apply to most of the farms in the valley.

In Missoula City, McWhirk has demonstrated the fact that the Green Gage plum may be matured with the finest flavor and of very large size.

COLORADO.

COLORADO PRODUCE YIELD.—Peter Magnes, an enterprising farmer near Denver, reports to the *Denver Tribune*, that the average yield of his crops per acre last year was as follows: winter wheat 37 bushels; barley, 38 bushels; rye, 27 bushels; potatoes, 200 bushels. By extra care and a combination of favorable circumstances, he obtained from four quarts of seed on one-third of an acre, 35 bushels of wheat; from two bushels of black Swedish oats on two acres, 166 bushels; from four bushels of English oats on four acres, 232 bushels; from one acre of barley, 66 bushels; and two papers of English sugar beet seed, sent from the Agricultural Department at Washington, produced at the rate of one hundred and seventy four tons per acre.

That last item is rather a heavy one, but we give it as reported.

ATLANTIC.

CROP REPORTS.—The monthly report of the Department of Agriculture for September, now in press at Washington, reports—Corn—favorably: Kentucky is fifteen per cent below the average; Ohio, 2; Michigan, 7; Indiana, 3; Illinois, 5; while Wisconsin is nine above; Minnesota, 8; Iowa, 13; Kansas, 15 and Nebraska 12. The wheat reports are less favorable than in the Spring and early Summer, except in the eastern and middle States at the time of harvesting. The following are reported above the average: New Hampshire, 4 per cent; Massachusetts, 1; New York, 2; New Jersey, 10; Pennsylvania 7; Maryland, 2; Michigan, 6. The rest are below the average; California is reported 25 per cent below; Oregon, 5; Minnesota, 20; Illinois, 8; Indiana, 9; Iowa, 10. The depreciation in the West is about ten per cent, which will be partly offset by the increase of area. Barley is below the average except in a few States. Rye is nearly an average.

POMOLOGICAL.

Preparing Apple and Pear Seeds for Planting.

"J. A. H." of Visalia, asks us for the best method of separating apple and pear seeds from the core, preparatory to planting."

We do not know how we can better answer our correspondent than by giving the following extract from a prize essay on the culture and propagation of the apple, by L. A. Roberts, of Brooklyn, N. Y., read before the American Institute in 1862. We quote as follows:

Although apple trees are sometimes successfully propagated by layers and cuttings, undoubtedly the best method is from the seed, and the best manner of obtaining seed is as follows:

Take the cores from nice, fair apples, grown on thrifty trees, always preferring seedlings; wash them entirely free from the flesh of the fruit and dry them slowly, carefully, and thoroughly. The cleaning is conveniently done by first rubbing the core or pomace through a coarse sieve, and afterward macerating or stirring it in a vessel of water, when the pomace will float and can be skimmed off, while the good seeds sink. It is common to take ordinary pomace from a cider mill, but, in so doing you are more likely to get seeds from poor fruit grown on unhealthy trees than from such as you would desire.

Some persons plant the seed in the pomace without cleaning it; in such cases the seed is often destroyed by the malic acid of the fruit.

It has been held that stocks raised from the seeds of crab-apples were more hardy than from those of cultivated fruit. While this is doubtful, it is certain that stocks from such seeds are almost certain to be of slow growth, and to make but small trees. We cannot, therefore, recommend their use.

Seed Beds.

Prepare seed beds by trenching or plowing a soil of sandy loam, at least eighteen inches deep; make it rich with well-rotted manure, and under no circumstances use raw or unfermented animal manure, for it will certainly breed insects, as well as destroy the young roots. Sow the seed, in drills from twelve to eighteen inches apart. Cover not more than one inch deep with finely pulverized soil, and spread a thin mulch of some light substance to keep the ground moist and prevent the weeds from growing. The seeds will commence coming up early in the spring, and continue to do so for several weeks. Seeds may be planted in the spring, in which case they must have been carefully kept through the winter in a slightly moist condition. This can be done by keeping them in a cool place in boxes of sand just wet enough to keep the seeds from drying.

The plants should not be allowed to stand closer in the rows than one in about two and one-half inches. Careful attention to them when quite young will save much future labor and insure a better growth. Weeds should not be allowed to show themselves, and the ground should be kept mellow by frequent stirring, and moist by gentle watering, if necessary.

When the young trees, generally designated as stocks, have attained a diameter at the ground of about three-eighths of an inch—which they should do in one year from planting—they should be transplanted to the nursery. The transplanting may be done in the autumn or in the spring. It is sometimes well and necessary to let stocks remain eighteen months in the seed-bed to attain proper size for planting. Those that do not attain that size in two years, may as well be rejected as worthless.

INTERESTING TO POMOLOGISTS.—Mr. Dubreil, the eminent French pomologist, states that he has produced much larger fruits than usual by moistening the surface of the green fruit with a solution of sulphate of iron, 24 grains to a quart of water. This was done when the fruit was first set, when it was half and three quarters grown, taking care never to do it when the sun was shining. It has long been well known that this solution greatly stimulated absorption.

THE annual fruit product of the Ohio Valley is estimated by the Cincinnati Fruit Growers' Association at \$5,000,000.

Keeping Pears.

Our old friend Dr. J. Houghton, of Philadelphia, who has had much experience in raising pears, and who has experimented largely on keeping fruits and meats, communicates the following to Tilton's *Journal of Horticulture*, as the result of experience in keeping pears:—

A very low temperature, and a dry, fine atmosphere present the only sure means of preserving fruit. No sort of packing, such as sawdust, charcoal, dry sand or plaster has proved even moderately successful. Packing in air-tight vessels, is far from being useful, and is rather fatal to long keeping; I do not even like close drawers of boxes. In barrels with numerous openings for ventilation, I think pears may keep well, in a cold, dry atmosphere, but I am not sure of it. * * *

Pears intended to be kept for a long period of time, say six months or more, should be carefully hand-picked, when well matured on the tree, and put immediately into a fruit-room at a temperature as nearly down to forty degrees as possible. They should be placed in shallow boxes or on shelves, in such a manner that the air can reach them, and so that they will not be bruised or crushed. The fruit-room should be kept constantly at about forty degrees; the air should be dry and pure; but no fresh air should ever be introduced into the apartment with a view to ventilation, as such ventilation would introduce fresh supplies of oxygen, the destructive agent of the atmosphere.

In such a room nearly all perishable fruits will keep for an incredibly long period of time. The most delicate pears, such as Bartlett, nearly tree-ripened, will keep for three or four months, if not longer, while the later pears, with tougher skin, will surely keep for six months, and some of the winter pears, I have no doubt, perfectly sound for a year. In keeping grapes, native or foreign, I believe not so much success has been achieved as in keeping most other fruit, though instances of great success are reported. Singularly enough, peaches, which are very perishable, keep surprisingly well in a cold, dry fruit-room; and, when brought from such a fruit-room into a warmer atmosphere, are not much affected by the change.

The great difficulty about keeping winter pears sound and plump which we find in this climate is, that it is almost impossible, without the aid of a cold fruit-house, to carry winter pears through the hot weather in October, when the thermometer frequently shows seventy-five degrees of heat, and no cellar or vault can be found sufficiently cool and dry to keep the fruit from passing into a state of partial decay. It requires a temperature nearly down to forty degrees to keep pears for a long period of time, and in this part of the country no cellar, rocky vault twenty-five feet deep, or rocky well seventy-five feet deep, has ever shown a temperature lower than fifty degrees, or thereabouts; generally the coldest lager beer vaults (rocky caverns, thirty feet deep) stand constantly at fifty and fifty-five degrees.

Such a fruit-room as I have described, cooled with ice to an unvarying temperature of forty degrees, and even lower, in a simple and expensive manner, with a perfectly dry and pure atmosphere, without the aid of any artificial absorbent or dryer, I have had in operation at my fruit farm for three years with the most perfect success. This house was examined by a large number of pomologists last September, during the session of the National Pomological Society, and was reported upon by a committee of that society. The report will be found in the published proceedings. This house was invented by a practical man, who has had twenty years' experience in handling ice, and can be had by any person who desires to make use of it, without any of the extravagant sums which have been charged for similar houses. There are some ten or twelve houses of this kind, which have been in successful operation in Philadelphia for three years.

The use of ice for the preservation of fruit I regard as an imperious necessity; and a simple, practically successful method of doing this, without costly machinery, or constant attendance, must be regarded by ever fruit-grower as an achievement worthy of attention.

APPLE TREE SUCKERS.—The *Working Farmer* says the best way to get rid of the young suckers that grow up at the base of the trunks of orchard trees, is to wait till the suckers are in leaf, at which time they are loosened more rapidly, and taking each separately in the hand, place a thick boot upon it near the tree and pull the shoot from its juncture with the tree. They will not sprout up again.

Books for the People.

Questions of the Day.

Henry Carey Baird, the Industrial Publisher, of Philadelphia, is one of the staunchest advocates of protection to home labor, and to him is due the issue of a great number of works on practical and scientific technical knowledge. The range of these publications includes almost every branch of manufacture, and they are such as every intelligent employer requires in daily use. The best works written abroad are translated and their contents made available to benefit American industry. His last publication is a treatise on the "Questions of the Day," written by Dr. Wm. Elder, well known in the East, as a most profound thinker. It is the result of about 20 years' study and preparation. The main subjects of the work are: Political economy; formation of society; civilization; wealth—the laws and conditions of its growth; sources of advancement; law of increase in population; distribution of wealth—wages, and money as an exchange of value. It also treats of paper money; commerce; trade between nations; free trade and protection; doctrine and policy of protection with the most prominent and plausible objections to the system; guarantism; and secret societies. The chapters in co-operation will be read with special interest, as they give a complete survey of the field of co-operation in connection with stores, manufactories, banks, etc., and a general view of the system in the United States. The book is neatly printed on excellent paper, and is well worth a perusal by all classes of society. For sale by A. Roman & Co., 417 and 419 Montgomery street.

Alcoholic Liquors.

This is the title of a volume on the manufacture and distillation of alcoholic liquors, comprising accurate and complete details in regard to alcohol from wine, molasses, beets, grain, rice, potatoes, fruits, etc.; with the distillation and rectification of brandy, whisky, rum, gin and absinthe. It also treats of the preparation of aromatic waters, volatile oils or essences, sugars, syrups, aromatic tinctures, liquors, cordial wines, effervescent wines; the ageing of brandy and the improvement of spirits with directions and tables for testing and reducing spirituous liquors, etc. It contains also the United States revenue regulations for the assessment and collection of taxes on distilled spirits.

The work is translated from the French of Duplais, by M. McKennie, M. D., and is published by Henry Carey Baird. As the manufacture of alcoholic liquors is now attracting considerable attention in this country, this exhaustive treatise on the subject will be found convenient to those directly interested, as well as to the general reader. This work is illustrated, and may be procured postage free for \$10, by addressing Henry Carey Baird, 406 Walnut St., Philadelphia.

Every Horse Owner's Cyclopaedia.

This book is illustrated with nearly 100 fine engravings and treats of the anatomy and physiology of the horse; general characteristics, points, and directions how to choose one. Principles of breeding and the best kind to breed from; treatment of the brood mare and foal; training and breaking the colt; stables, stable management, riding, driving, etc. Horse diseases and the way to cure them is specially noticed. The American trotting horse is also treated of with suggestions on the breeding and training of trotters. There is also a list of stallions imported into America from the earliest dates and tables of pedigrees of celebrated trotters. The Percheron horses of which so much has been said in the *PACIFIC RURAL PRESS*, receives considerable attention. The engravings are well executed, and the frontispiece representing the race between "Goldsmith Maid" and "American Girl" in 1868, is cut on steel. The volume contains 582 pages, is handsomely bound, and is, as its title promises, a complete horse-owner's cyclopaedia. It is for sale, by subscription only, at Roman & Co.

Scientific Lectures.

The want of an Evening School in this city, which young men employed during the day might attend, for the purpose of acquiring a thorough acquaintance with the present state of science, has been greatly felt. This deficiency has now been met, we are glad to see, by the establishment of a class at the St. Ignatius College, on Market street. The instruction will embrace a complete course of physics and chemistry, adapted to older students of ordinary intelligence, and the subjects will be illustrated by numerous experiments. The lectures will take place every Monday, Tuesday, Wednesday and Friday evenings, beginning at 7½ and ending at 8½ o'clock.

To those desiring to perfect themselves in metallurgy and mineralogy, this class affords a splendid opportunity, and for these branches, destined to become of the utmost importance on this coast, a knowledge of chemistry is indispensable. We have had the pleasure of examining the laboratories and extensive apparatus, of the College, and from that fact are assured that nothing will be wanting to render these lectures both interesting and instructive. An extensive mineralogical cabinet, containing specimens from all parts of the world, will facilitate the studies connected with geology and mineralogy. These lectures are not for young men only; but for all whose tastes lie in that direction.

Decision Respecting Trade-Marks.

A suit involving interesting legal points respecting the present law of trade marks, was recently decided in the Equity Court, for the Washington District. It was instituted by Joseph Rodgers & Sons, the celebrated cutlery, of Sheffield, England, against Philips and Solomons, the stationers who have the contract for supplying the Treasury Department with Rodgers & Son's penknives, erasers, etc. The complainant alleged that the defendants had been selling imitation knives bearing the counterfeit of their trade-mark. The defendants did not deny the sale of these imitation knives, but alleged that they were manufactured in Germany by a firm known as Rogers & Sons, who have a Royal license from the Prussian Government for a trade-mark similar to that of Rodgers & Sons of England, and have long been imported and sold in this country. They furthermore contend that plaintiffs cannot maintain their suit, in view of the fact that they have not registered their trade-mark in the U. S. Patent Office, as provided for in the Act of Congress on the subject, passed in July last. A decision was rendered overruling and denying an injunction as prayed for by the plaintiffs, on the ground that the English firm had, by their neglect for a series of years to enforce such rights as they are possessed of, under the trade-mark law in this country, waived the right to call upon the courts for assistance. The firm which made the cutlery had also a right to use the trade-mark in Prussia, where the goods were manufactured.

MISSING PEOPLE.—Whenever an unknown corpse is exhibited for identification at the morgue, in New York, the very great number of persons who call to ascertain if it be the one missing from their own home, or circle, reveals a state of fearful insecurity. It makes clear the fact, that, at all times, in that city, there are hundreds of missing people, victims to accident, to their own or to the sins of others. How many every day mourn some lost one, and though tortured by the mysterious absence, yet grieve in silence, fearful of what a revelation of its cause might disclose. The fate of how many victims never come to light, deep buried beneath the sod, or anchored to the bottom of the deep.

Accidents, violence, treachery, the dread of exposure and of shame, all these causes conspire to swell the number of the missing.

RESPECTING PROPERTY.—Baron Rothschild owns 144 houses in Paris, valued at \$5,750,000, in some of which, it is said, not so much as a pane of glass was broken during the siege.

USEFUL INFORMATION.

What Guides the Birds.

Swallows, and probably other migratory birds, return, as is well known, not merely vaguely to the North, but to the very caves they quitted on the previous year.

We might possibly explain the marvels of dog and cat journeys, by supposing the sense of smell in such animals to be (as it undoubtedly is) as powerful a guide as that of sight is to us; so that, as we find our way by remembering the appearance of walls, trees and brooks, a hound may find it by recalling the various odors of fields, and woods, and farmyards. But even if we could possibly so explain the recognition of places by a cat which has traversed them shut up in a railway van, it is clear that the theory cannot apply to those birds which, like the wild geese, soar up to the greatest distance from the smells of earth as the preliminary of their aerial voyage.

Is it, then, within the scope of credibility that to all the creatures who need such a faculty, Providence has accorded some other power altogether, some sixth sense, of which it is as hard for us to judge, as for a blind man to understand sight? Can it be that the magnetic currents to which our farmers are insensible, may, for the brutes, be as much a matter of clear perception as the direction of the wind is to us as we walk in a breeze, and that, consequently, wherever they go they have an internal compass which never deceives them, or leaves them in doubt as to whether they are going in the direction of the current or across it? I throw out this suggestion with great hesitation as the result of very long consideration of the riddle.

Microscopic Examinations.

The air of printing offices contains particles of metal, particularly antimony. Dust taken from a rafter eleven feet above the floor of a printing office, was analyzed by Professor Sullivan, and found to contain antimony but not lead.

The air of a hair-dressing room contained scales, and minute hairs. In rooms where the machine brush is used the amount is increased.

The air of a dissecting room contained fragments and fibres, with the mark of the dissecting knife upon them. They were fibrils of muscles, yellow and white fibrous tissue, some cells, scales, and corpuscles. The air of stables was found to contain moth scales, a few pores, hair and fragments tinged blood color.

Tobacco smoke, examined by the microscope, was seen to hold little globules of nicotine twirling and flitting about in it. The statement is made that some remained on the walls of the mouth; when the smoke is breathed (by novices) more globules are retained in the lungs, and nausea supervenes. The globules, if found in the air distributed by a tobacco smoker, might be taken for germs.

HOW A MAN FEELS WHEN HIT BY LIGHTNING.—During a recent thunderstorm in Ohio, Mr. Sanford Ticknor and his hired man were crossing a field when they were struck down by a bolt of lightning from the clouds. The hired man was made insensible for twenty-four hours, when he became conscious. His only remembrance of the shock was that "suddenly the ground raised up and buried him"—at least so it seemed, but no trace of any disturbance of the earth could be found, nor any mark upon the man. Mr. Ticknor was not so badly stunned; indeed was not made unconscious at all. He describes his feelings as though he had been hit by a severe blow with a stone on the head and one foot, accompanied by the feeling that a shower of gravel had been thrown on him. He remembers a blinding flash of light succeeded by smoke. Both have recovered.

TO REMOVE FOUL AIR FROM WELLS OR MINING SHAFTS.—It is well known that many accidents occur to persons going down into wells and old mining shafts to clean them, owing to the noxious gas in such places. To remove the gas before descent is made into any well, a quantity of burned but unslacked lime should be thrown down. This, when it comes in contact with whatever water is below, sets free a great quantity of heat in the water and lime, which rushes upward carrying all the deleterious gas with it; after which, the descent may be made with safety. The lime also absorbs carbonic acid in the well. Always lower a light before descending; if it is extinguished, there is still danger of suffocation.

How To See Under Water.

The Indians of North America do this by cutting a hole through the ice, and then covering or hanging a blanket, in such a manner as to darken or exclude the direct rays of the sun, when they are enabled to see into the water, and discover fish at any reasonable depth. Let any one who is anxious to prove this, place himself under the blankets, and he will be astonished when he beholds with what a brilliancy everything in the fluid world is lighted up. I once had occasion to examine the bottom of a mill pond, for which I constructed a float out of inch plank, sufficient to buoy me up; through the centre of this float I cut a hole, and placed a blanket over it, when I was enabled to clearly discover objects on the bottom, and several lost tools were discovered and picked up. I am satisfied that, where water is sufficiently clear, this latter plan could be successfully used for searching for lost bodies and articles. I would now suggest that this experiment be tried on the sea; for I am satisfied that, with a craft like the Great Eastern, where an observatory could be placed at the bottom; with sufficient darkness, by the aid of glasses we could gaze down into the depths of the sea same as we can survey the starry heavens at midnight.—*Scientific American.*

RAILROAD SIGNALS.—It may be interesting to many of our readers to understand what the different whistles of a locomotive and the various motions of conductors mean. Here it is: One whistle means "down brakes," two whistles, "off brakes;" three whistles, "danger." A rapid succession of short whistles is the cattle alarm, at which the brakes will always be put down. When a conductor gives a signal by a sweeping parting of the hands, on a level with his eyes, it means, "go ahead." A downward motion of the hand, with extended arms, "stop." A beckoning motion of the hand, "to back." A lantern raised and lowered vertically, is a signal for "starting;" swung at right angles or crossways the track, "to stop;" swung in a circle, "to back the train." A red flag, waved upon the track, is a signal of danger; so of other signals given with energy. A red flag hoisted at a station, is a signal for a train "to stop;" stuck up by the roadside, it is a signal of danger on the train ahead; carried unfurled upon an engine, a warning that another engine or train is on its way.

MAKING CANDLES.—Many of our farmers who study economy in their domestic affairs, find it more economical to make their own candles than to buy them. Such persons will find that by making the wicks about half the ordinary size, and dipping them in spirits of turpentine, and drying them carefully before the fire, or in the sunshine, before moulding, they will last longer and afford a much clearer and more brilliant light than those made in the ordinary way. A small portion of beeswax, melted with the tallow, has a tendency to prevent their "running," and renders them much more lasting.

FISH have great tenacity of life. It is believed that the carp has attained the age, of one hundred and fifty years, and the pike a still greater age. A pike was caught in a lake in South Germany in 1497, on which was found a ring bearing this inscription, "I am the fish which was first of all put into this lake by the hands of the Governor of the Universe, Frederick II., the 5th of October, 1280." It weighed three hundred and fifty pounds, and was nineteen feet long.

TO WASH HAIR BRUSHES.—Hair brushes, however dirty, may be washed and kept good for years, without loss of stiffness, by putting a small handful of soda into a pint jug of boiling water. When the soda is melted, put in the brush and stir it about till clean. Rinse it in cold water, and dry in the sun or by the fire. The quicker it dries, the harder the bristles will be.

ACHING CORNS.—Why do our corns ache just previous to rains? Because our feet swell with the sudden depression in the density of the air; and the hard corn, not being elastic, is painfully stretched and pressed.

A HOT PLACE.—The temperature of the sun has been determined by Capt. John Ericsson, by means of his solar pyrometer, to be not less than 4,060,000 degrees Fahrenheit.

A cord of wood furnishes sufficient material for the manufacture of 800 pounds of paper. A ton of straw, 750 pounds.

GOOD HEALTH.

Have We a Healthy Man Among Us.

It is the custom now-a-days, in speaking of the physical condition of the American people, to assume that whatever characteristics belong to it are to be traced back to woman, and as even the casual observer perceives that we as a people, are subject to various weaknesses or disorders, the consequence is that the delicate shoulders of women are weighed down with a heavy bundle of complaints and advice. Against this we protest. It is not courteous, to say the least, and besides, the assumption is unsupported. When it comes to a matter of health, the question is not one of sex, but of race; and although it is undoubtedly true that no people can long maintain themselves without healthy fathers.

Have we a healthy man among us? Yes, as individuals, but he is not what is called in current talk, "the average man." This is the land of patent medicines, and the supply is according to the demand.

There are two specific causes for the ill-health of men. In the first place, every man is trying to get on in life. We begin when we are boys. No one is born to a place in society. Every one is told, and feels, that he must make for himself a place. And also, that he may step higher up, he is continually aiming at a star rather than a tree, or often exhausts himself in seeking that which is still beyond him.

In the second place, the pleasures of men often injure them. The young man at college rows himself out of health, while the man of business mistakes excitement for pleasure. There must be something pungent and almost acrid about even the occupations of a day of leisure. There is no time in these days for one to sit in the sun and sing old songs.

Something more is charged upon woman. In her devotion to fashion it is said that she renders herself unfit to become a mother. But how is it with men? Has not indulgence as often ruined the father as fashion the mother?

Diseases Incident to the Season.

The seasons of spring, summer and autumn very commonly give rise to certain atmospheric influences which tend to the development of malarial diseases. In low and marshy places it generally crops out in the form of chill fever, bilious fever, etc.; and in the more southern portions, congestive and yellow fever; while in more healthy localities, dysentery, pleurisy, acute inflammations, and attacks of indigestion—such as diarrhoea, cholera morbus, etc., will occur.

Where the eliminating organs are active, but the powers of the system only adequate to partially resist this atmospheric poison, it will manifest itself in chronic congestion of the liver, irritation of the bladder, constipation of the bowels, general debility, and neuralgia.

To obviate these effects, the body should be well protected with clothing; great mental or physical fatigue obviated; all excesses avoided; houses should be well ventilated, and fires in the lower portion of the house at least every evening. The sleeping apartments should be up-stairs and dry. In the treatment, active purgatives and all debilitating remedies should be avoided.

DEATHS FROM DRINK.—Doctor Edward Jarvis, statistician of the General Life Insurance Company of London, furnishes the following statement, as showing the death of persons who are intemperate as compared with an equal number of persons of temperate habits. He says that if 100,000 intemperate persons be taken from fifteen to seventy years of age, and an equal number of corresponding ages, who are not intemperate, 32 of the former will die as often as ten of the latter. Out of 100,000 of each, 15,907 of the intemperate will be dead before fifty years of age, but of those not intemperate, 4,266 only will be dead. From fifty to sixty years, the comparative number of deaths will be 6,419 and 2,254, and from sixty years to seventy they will be 55,175 and 33,280. Here is an argument *ad rem* which should be much more potent than any prohibitory laws to check the suicidal growth of habits whose fatal results are thus mathematically demonstrated.

Persons of a nervous temperament performing brains work should subsist mainly upon fish and cornmeal.

A TAPE WORM, fifty-two feet long, has been removed from the stomach of a man in Houston County, Texas.

Glycerine as Food and Medicine.

Glycerine is one of the most valuable articles our pharmacopia can boast, while as an article of food, it is one of the best and most fattening nutriment. Sweet oil, or olive oil, has for ages been an article of daily diet in Palestine and other old countries, and glycerine is an essence of it. It is a perfectly natural and bland fluid, and the most penetrating, perhaps, in all nature. Oil itself will penetrate where water will not, and glycerine, which may be considered the ethereal part of oil has this property to a most remarkable degree—it penetrates the solid bone.

A medical journal tells us that if poured into a mixture of blood and matter, such as is expectorated from consumptive lungs, it will get between the globules of each and show them with greater distinctness. Being thus penetrating, it is the very best application for feverish sores, for inflamed or dry surfaces, simply from its quality of penetration and evaporability. If applied with a common brush to the surface of the throat in diphtheria, in a few minutes its permeative quality enables it to sink between the molecules of the false membrane, dissolving and detaching it in a few hours. It is the best application known in case of burns.

Cure For Lead Poisoning.

The last published volume of Chambers' Encyclopedia recommends the following treatment as a sure and speedy cure for lead poisoning. The patient should be placed in a sulphuretted bath, which converts all the lead salts in the skin into the inert black sulphide of lead. These baths should be repeated till they cease to cause any coloration of the skin. At the same time he should drink water acidulated with sulphuric acid or a solution of sulphate of magnesia, with a slight excess of sulphuric acid, by which means an indissoluble sulphate of lead is formed, which is eliminated by the purgative action of the excess of sulphate of magnesia. Iodide of potassium is then administered, which acts by dissolving the lead out of the tissues, and allowing it to be removed by the urine. The palsy may be specially treated, after the elimination of the lead, by electricity, and by strychnine in minute doses. Persons exposed from their occupation to the risks of lead poisoning should be specially attentive to cleanliness, and if they combine the frequent application of the use of sulphuric lemonade, or treacle beer acidulated with sulphuric acid, as a drink, they may escape the effects of a metallic poison.

TREATMENT FOR FAINTING AND LOSS OF CONSCIOUSNESS.—Where the mind becomes intensely excited, it is liable to disturb the circulation to such an extent, as to result in loss of consciousness. It is best treated by placing the patient at once on the back with the head slightly elevated and the arms extended; water should be dashed in the face, and the palms of the hands and soles of the feet slapped or rubbed briskly. No more persons should be allowed to gather around than is absolutely necessary for the case; if immediate consciousness is not restored, ice should be applied to the spine, or, in the absence of ice, cold water should be dashed along the spine. Spirits of ammonia may be applied to the nostrils, and brandy or whisky injected into the bowels in extreme cases.

INTENSE craving for food of improper kinds and at unseasonable hours, can be prevented to a great extent by drinking water.

THREE persons in one family, the father and a son and daughter, died recently from eating pork containing "trichina," near Casey, Adair Co., Iowa.

CHILDREN of a weak and scrofulous habit should be allowed all the white sugar they desire. It improves digestion and strengthens the blood.

INSANITY.—Statistics prove that about one-half the cases of insanity have been occasioned either directly or indirectly by strong drink.

FUEL for domestic purposes became so rare an article during the siege of Paris, that several ingenious devices were invented to meet the positive hardship suffered from its scarcity. One process that met with great favor was to saturate porous cylinders of clay prepared for the purpose with bituminous substances. These were used like the charcoal, which is largely used under ordinary circumstances.



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SAN FRANCISCO:

Saturday, Sept. 30, 1871.

Removal.

The entire business office of the SCIENTIFIC PRESS, PACIFIC RURAL PRESS, and our U. S. and Foreign PATENT AGENCY and ENGRAVING establishment, will be removed Oct. 1st to No. 338 Montgomery st., on the southeast corner of California street, diagonally opposite Wells, Fargo & Co.'s.

Our Weekly Crop.

Farming with modern improvements, is of course, attended with considerable expense; but then there is a satisfaction in having things done right and in seeing everything about the farm neat and snug; so we have this week put up a new Farm Gate, and our visitors will find it a pleasure rather than trouble to open and shut it, so easily and smoothly does it work. Improvements being the order of the day we have also introduced upon our farm some Improved Stock and Fruit, and now that the Harvest is Over, we well can spend a little more time in the Library, and have plenty of leisure to listen to a Woman's Ideas of Farming, which by the way, are good and practical. Our Horseman also brings us some further information about our favorite Percheron, near which we listen to a few Poultry Notes, afterwards we take a few Notes of Travel in Santa Cruz County, and visit a session of the Santa Cruz Farmers' Club, by which time we are ready to take our accustomed weekly trip to observe the progress of the farming interest throughout this and the neighboring States and Territories of the Pacific Slope.

Such a trip gives a good Pomological appetite, after satisfying which, we review some excellent Books for the People, and gather up some Useful Information about Health and others matters of practical interest.

We next go in search of The Philosopher's Stone and find it; then visit the State Fair, and the Fair at Petaluma. At the latter we find some fine Southdown Sheep on Exhibition, and at the former among other things, a large exhibition of fruit from the Eastern States as well as California, which is fully described to us by our old friend Mr. Perkins.

Having consulted a woman on farming matters in the early part of the day, we now pay our respects to The Managing Wife, who presides over the Home Circle and learn how a Poor Man may buy a House. After a chat with the Young Folks, we gather a few hints on Domestic Economy, etc., and then listen to the announcement of the Premiums Awarded at the State Fair for cattle and horses, reserving the balance for next week, in order that we may find time in the meanwhile to make out our regular Market Reports before the close of the day.

Last year 14,000 tons of the South Carolina phosphates were shipped to England and Holland and 17,000 tons to American ports.

A Philosopher's Stone for Employers.

It is said that John Randolph once rose suddenly up in his seat in the House of Representatives and screamed out at the top of his shrill voice: "Mr. Speaker! I have discovered the Philosopher's Stone. It is—Pay as you go!"

In all the searches after the Philosopher's Stone, we know of none more successful than this. In all the walks of life nothing more true or valuable can be said than "Pay as you go."

We propose, at present, to apply this merely to the case of employer and workman. Between the two arise many a trouble from many a cause. It is often very difficult to say which is in the right. Frequently, as in all other things, the right is on both sides. But the opinion of the world is apt to favor the employer in the generality of cases.

The workman always has many reasons, stronger or weaker, for complaint. And one of these, only too often, is delay or failure to pay his wages. We often hear the folly and wickedness of strikes dwelt on. Concerning this subject we do not wish now to argue. We merely assert that the employer has no more right to delay paying his men's wages, when due, than the men have to strike and prevent others from taking their places.

We doubt not that many a strike has had its origin, in part, at least, in a delay of the pay which is due the men. We know of many a case on this Coast, as well as elsewhere, where the miner, farmer or mechanic cannot obtain his dues from his employer. If a man cannot pay his workmen, he has no right to engage their services, and cannot complain, in justice, if they take action to secure their rights.

When a workman's wages fall due, they are his property. To withhold them is therefore only one species of robbery, where the law cannot be applied to without injury to the appellant. The man often cannot appeal at all, without danger of permanent injury to himself; often social opinion would deter him from attempting to secure his rights. And so he is obliged to suffer without any redress.

The labor question is getting to be an important one now-a-days. Both sides should be heard and judged impartially, and we think that this one item should receive more attention than it has. Whereupon we call upon employers to think of Randolph's Philosopher's stone—Pay as you go!

Mesquit Grass.

Mr. William H. White who resides one mile west of Bloomfield, in Sonoma county, has sent us a bunch of the grass about which so much has been said of late, as "Mesquit Grass," and thought to be well suited to the dry lands of California. Whether this is the genuine mesquit grass of Texas, or not, we are unable to say; but on submitting it to Mr. Bloomer, the well known botanist of this city, we learn that it is known to botanists as *Holcus lanatus*. The grass has a strong fibrous root, grows to a height of three or four feet, with a beautiful top much resembling the pampas grass, which is grown for ornamental purposes in the gardens of this city.

This grass grows on all soils, from the richest to the poorest—wet or dry; but in the greatest degree of luxuriance on light, moist, peaty soils. In this State it remains green most of the year, and flourishes long after all other grasses have died out from drouth. It is also perennial, a quality which very few grasses possess here.

Its nutritive matter consists almost entirely of mucilage and sugar; from which the sub-acid, or saline matter, generally found in grasses, is mostly absent. Hence cattle do not prefer it when other grass abounds. But in the absence of any other they eat it with avidity, and thrive well upon it.

It has been suggested that the grass or hay made from it might be rendered more palatable by being sprinkled with salt. Pigs are very fond of its roots, and dig them up with eagerness.

THE STATE AGRICULTURAL FAIR.

The State Fair, at Sacramento, which closed on Saturday evening last, was one of the most successful, which has yet been given under the auspices of the State Agricultural Society. This is true whether regarded as an exposition or as a financial result. The total receipts of the Association from all sources exceeded \$30,000—an amount \$4,000 more than was ever before received at any exhibition of the association. The influx of strangers was unusually large, and the interest manifested seemed to have been, as it should be, for a general fair, quite State wide. Both mountain and valley responded to the call.

The Stock Parade,

on Wednesday was a magnificent affair. Over one mile of about as fine stock as the world can produce, proud prancing horses, sagacious, sleek-sided, horned stock, etc., was a sight of which our stock-men might well be proud, and they were.

Blooded Cattle

constituted a leading feature of the exhibition at the stock ground. As elsewhere noticed in our columns to-day, the farmers of California have pretty generally made up their minds to eschew, in the future, the long-horned, slab-sided stock, which formed such a characteristic feature in California landscapes of early days of gold digging, and in their absence has also disappeared all necessity for the old time *rodeos*. Our farmers now come up to the annual Fairs with the more noble, docile and profitable stock induced by a free admixture of gentle blood. Experience has convinced them that the best is the cheapest.

The amount of stock at the grounds was unusually large as well as fine. Though *grades* still outnumber the *full bloods*, the time is fast approaching when the order will be reversed at all our principal fairs. Even the stock raisers themselves did not expect to witness such an exhibit, and the splendid showing cannot fail to greatly aid the thorough-bred interests, and will stimulate to still greater efforts to excel at the next annual fair.

Space will not admit of our going into a special enumeration; but we may remark that the show of Durhams and Devons was very large, and quite superior to anything ever before seen on this coast.

Among the exhibitors of blooded horned stock were Col. Younger, of San José, Cal. J. C. Goungh, G. N. Swezey, of Marysville, Moses Wick, J. R. Rose, of Lakeville, Dr. E. S. Holden and W. L. Overhiser, of San Joaquin, John Brewster, Mr. Bryte and Robert Cowne, of Sacramento county, Robert Ashburner and Steve Whipple, of San Mateo, R. B. Cannon, Col. Saxe, Robert Williamson, J. D. Carr of Monterey, Werner Hamill, of Solano, Clark & Cox, and E. Comstock of Yolo, R. M. Sparks, W. Bassett, Peter Burus and others.

The Horse Show

was also a notable feature, for there were many very fine animals, among the most noted of which were Norfolk, Lodi, Speculation and Monday, and last but not least "Wonder," the famous Stanford horse, which is expected to beat the world, when he is ready for his first thorough trial. As yet he has never been put to his best; although just to amuse the crowd, and to show himself, he was allowed to make a half mile in 1:7½—the third best time ever made. The history of his origin, introduction, and remarkable performance, so far, is well monographed in the name which has been given to him; and if he don't work still greater wonders in the future, there is no dependence to be placed on the promises of horse flesh.

The races were fully attended—the attendance of one day was estimated at 10,000 in number; the grand stand being crowded almost exclusively with ladies.

Sheep and Goats.

There was quite a display of the several grades and classes of sheep, by Peter Saxe, A. Roberts, Smith & Overheiser, T. McConnell, W. Blanco, A. S. Rawson, F. Graham, Townsoud & Rogers and others to each of whom premiums were awarded. Cashmere goats were shown in great

numbers. Gray & Gilmore, of El Dorado, made a fine display of very beautiful animals for which premiums were awarded. Rawson & Rogers also received a premium.

Swine.

Mr. R. S. Thompson made a fine and large display of Berkshire and Essex swine, all well bred, for which he received a premium. Premiums were also awarded to Mr. Springer, P. Burns and others. Col. Saxe exhibited a large number of swine which had just arrived by rail, and consequently not in condition to make a very favorable exhibit. The entire exhibit in this line was good.

Poultry.

The largest display of poultry was made by the California Poultry Association, under the direction of T. E. Finley, Manager. Several other very fine exhibits were also made by other parties.

The Plowing Match

for, premiums constituted an important and most interesting feature. The plows entered were the gang plow, "American Chief," and single plow, "Farmers Pride" by Mattison & Williamson. Hill & Knaugh entered the gang plow "Eureka," also a large subsoil plow. Myers & Co. entered a subsoil plow, something new and practical—all California inventions. Jones & Hewlet entered their Thompson road steamer, followed by a 7-gang plow. Several other excellent plows and cultivators were entered, all of which did very efficient and satisfactory work.

At the Pavilion.

The Pavilion daily attracted throngs of visitors, and its varied contents of vegetables, fruits, flowers, machinery, paintings, manufactured articles of all descriptions, awakened the curiosity, and instructed and entertained all classes of visitors.

The Fruit Exhibit,

indicated as much progress as did the other departments. The same method of reasoning which induces the stock-raiser to replace his ordinary, with improved breeds, teaches the fruit-grower that choice fruit pays better than ordinary, and has manifested its good effects in improved exhibits at the Pavilion.

But a new and most interesting feature this year was the contributions from the East. Massachusetts, New York, Illinois, Kansas, Michigan, Virginia, Kentucky, Iowa, Connecticut, Nebraska and some other states were represented in their pomological productions, and were given a conspicuous place in the centre of the hall. Several hundred specimens were exhibited, many of which were of superior beauty and excellence, although they had generally suffered somewhat from their long journey across the plains and mountains. In the specialty of apples our Atlantic neighbors undoubtedly excel us; but in other kind of fruits the meed of praise seems to remain with California.

The Display of Vegetables

was also excellent, notwithstanding the "dry season." Squashes, pumpkins, water-melons, beets, etc., were there in their usual variety, but somewhat reduced in size. Among the potatoes was a sample of large white raised by A. D. Rock in the silver soil of White Pine, Nevada.

The Dairy interest was represented by several exhibitors, one of whom, Samuel Cole of Gilroy, exhibited a 320 pound cheese. Mr. J. B. Jewell of Petaluma exhibited a 200 pounder.

We regret that want of room prevents our making any further reference at this time to the exhibition which has been creditable to all who have been connected with it, either as managers or exhibitors, as well as to the State itself.

LAST WEEK'S RECEIPT OF FRUIT.—Mr. Lusk, of the Pacific Fruit Market makes the following return of fruit received in this city last week:—

Six thousand boxes and 3,000 baskets of apples, 3,000 boxes and 900 baskets of peaches, 1,800 boxes of plums, 8,400 boxes of grapes and 4,800 boxes of pears, besides any quantity of minor fruit, were received. Eight hundred or 900 boxes of pears had to be thrown away, owing to a glut in the market.

"J. A. H." VISALIA.—We should be pleased to hear from you on the subject mentioned, or any other of a practical character.

"H. A."—We have no knowledge of the variety of wheat to which you refer. Are we right in reading the name "Arnautka?"

The Petaluma Fair.

The Fifth Annual Session of the Sonoma and Marin District Agricultural Fair was opened on Monday last under most favorable auspices. These two counties have suffered very little from the drouth which has so seriously affected most of the other agricultural districts of the State, consequently the farmers there incidentally profit by the high prices brought about by the scarcity of crops elsewhere. The newly-constructed railroad from Petaluma to Healdsburg, has also greatly benefitted that region by opening up additional facilities for transportation, and the yield of hay, grain, butter, potatoes, etc., have put money freely into the pockets of the people. All these things combined, with the zealous efforts of the officers of the Society, have served to bring out a much more creditable exhibition than has ever before been witnessed in Petaluma.

Literary Exercises.

No literary exercises were given at the opening of the Fair; but yesterday (Friday) at 11 A. M., the regular Annual Address was pronounced by Prof. Carr, of Oakland.

The Grounds and Buildings.

where the fairs of this Association are held, are situated just outside of the business portion of the town, and have cost about \$30,000; for about one-third of which amount the society is still in debt. The premiums offered this year amount to \$15,000.

The Display at the Pavilion

as already estimated, was very creditable. Among the mechanical novelties were some "raw hide chairs," exhibited by Mr. S. S. Nowlin of the Russian River Chair Factory—remarkable for their simplicity and strength—being made simply of white oak and raw hide. Mr. N. is himself the inventor and the only manufacturer of them in the United States, and although no special effort has been made to make them known to the public, he has nevertheless sold about 10,000 during the past year. It is said that they may be thrown from the top of a four-story house without injury—there is no wear out to them. Any person who is familiar with the wear of saddles constructed on this principle can readily realize that such might be the fact. Among other exhibits of home manufacture were the following:—Petaluma tanned leather, by Mr. Prescott; fine and heavy harness, saddles, etc., by Gwinne & Brainard, of Petaluma. This firm offers a premium of a \$50 harness to the best trotting four-year-old owned in the district. Samples of fine marble works were shown by T. Hastings, of Petaluma. P. E. Gasto, of Petaluma, showed excellent copper work. Fine boot work was shown by Geo. Walker, and Sullivan H. Plying, of Petaluma. Buckskin gloves, of their own make, were shown by A. Merrill, of Petaluma, and Z. A. Cockrill, of Santa Rosa.

Wagons and Carriages

occupied the most prominent position in the list of manufactures, and the exhibit compared favorably even with the really splendid exhibition of that manufacture at the Institute Fair in this city. There are two firms largely engaged in this manufacture in Petaluma—Messrs. Zorman & Putnam, and Messrs. Fritsch & Stafford, both of whom made fine exhibits.

Messrs. Z. & P. state that they are sending large numbers of their buggies and other work into other counties of the State. Their exhibit would certainly imply that their work must be very popular wherever it goes.

Messrs. F. & S. claim that everything about their buggies is home-made, even to the trimmings. The work of both these firms comprises the essentials of strength, lightness and ease for riding.

The miscellaneous exhibit of fancy articles was very fine and various.

The Fruit Exhibit,

Although the Eastern and principal fruit section of the district is not represented, except to a very limited extent, yet there were apples, pears, peaches, plums and

quinces on exhibition there, that the Sacramento exhibitors might well feel envious of. The fruits were first-rate from every part of this, (Sonoma) county. The samples of wheat, barley and oats, were better than any at the State Fair. Vegetables likewise.

There is a good display of home-made plows—by the old pioneer, Conrad—splendid.

A glance at the stock department evinces an additional number and apparently excellent—some kind—in quality.

It is impossible to do justice to this interesting accumulation of good things, in the limited space which we are able to devote to it.

Southdown Sheep.

California is destined at an early day to hold a leading place among the sheep raising States of the Union, and those turning

twelve or fifteen months old dress from 75 to 100 pounds weight. At two years of age they weigh from 100 to 130 pounds each. Their fleeces average from four to six pounds according to the keeping and breeding of the flock.

The improved are not as hardy as the unimproved Southdowns, or as the cross between the Southdown and some other short woolled varieties, but they still rank among hardy sheep; and they are good workers, being able to travel much further for their feed than any of the long-wools. They are very prolific and the ewes excellent nurses. They thrive best on dry uplands, which produce abundant and nutritious, but not rank vegetation. They attain an early maturity and are as good mutton as any race of sheep. It will be



SOUTHDOWN RAM.

their attention to this branch of business should be careful as to the breed selected in the beginning. The sheep business has been carried on from time immemorial, which is a good evidence of its being a profitable one. Its flesh is an important

seen by the accompanying engravings of both ram and ewes that the Southdowns are symmetrical in appearance. The fleece, though not so good as that of some other varieties of sheep, is, nevertheless, good; it is short and curly, with spiral ends. As



SOUTHDOWN EWES.

item in the food of man, and its covering is one of the most valuable of our staple products.

Strong prejudices exist among sheep-raisers as to the best classes of breed, but this is generally a question of locality, for some breeds of sheep thrive well in one place and some in another. In this State most of the large sheep ranches are located at too great a distance from market to make it profitable to raise mutton as yet, although in a few years, doubtless, railroad facilities will be sufficient to enable us to do so. On the places spoken of it is evident that the sheep shearing the heaviest, would be preferable, and the better the breed the greater the wool product. As to fineness of fleece, every scientific man will testify to the fact that the fabric wrought of fine wool confines more caloric than that manufactured from coarser material and this of course is a serious consideration.

The Southdowns are the oldest established short-wooled improved mutton variety. In prime American flocks, wethers

a mutton sheep to be reared in small numbers on farms, it is scarcely to be surpassed and almost every farmer can afford to have a few on his place.

OVERLAND MONTHLY.—The new feature in the *Overland Monthly* for October consists in the introduction of illustrations for the first article. The subject is "Tropical California," and the wood-cuts are scenes and objects in the southern part of our State. The contents of this number are: "Railway Stations;" "Placer;" "In the Sierras;" "On and About the Avon," by Joaquin Miller; "The Wilds of Western Mexico;" "The Stewardess' Story;" "The Oregon Indians;" "Almost;" "The Language of Confucius;" "Ideal Womanhood;" "Indifferent Metallurgy;" "The Mysterious Lady of Nisqually;" "Cultivation of the Present;" "From Year to Year;" and the usual Book Notices.

NASH, MILLER & Co., is now the name of the firm manufacturing Nash & Cutts' well-known patent fanning mill and grain separator in Sacramento.

Fruit at the State Fair.

An old pioneer at our State Fairs, Mr. D. L. Perkins, of Emmaton, Sherman Island, gives us the following brief notice of the fruit department at the late exhibition.

Eastern Fruits.

Your servant being one of the committee in this department, submits the following: In passing our judgment upon the fruit that was exhibited from the East, I find that from my notes that

The Pears

differed a great deal both in size and flavor from the different localities. Take for instance, the Swans Orange, in seven different States there was scarcely a difference; they were uniformly good, while scarcely any two out of other varieties were alike. The finest pears were those from New York. Taking into consideration the fruit of this class grown in California and the East, the fruit is far superior here in size and flavor, though allowances should be made for the locality, and the time of gathering them to be exhibited here.

Apples.

The finest display of this class of fruit came from Nebraska and Kansas. From the first named State the exhibit was very fine, the fruit was unusually large and highly colored. This collection was admired by every one that had the pleasure of seeing it. As regards the exhibit from other States, they were small and grown in a colder locality.

Corn.

Some very fine specimens of Dent corn were exhibited by several of the Western States.

Fruits.

I am sorry that I am compelled to remark that a large portion of the fruit, that came from the East was decreased. It is unfortunate because in this State we are entirely free from any of those insects but care has been taken to have all the fruit, that was left after the Fair destroyed. Great credit is due to our eastern friends, in sending the fruit, as persons could thus judge of the difference between the East and the far West.

Our Own Fruit Exhibit.

Perhaps at no time since the organization of the State Agricultural Society has there been so large and choice a display of fruit as has just taken place in this State, and that too of such a fine quality. There being but few premiums, the contest was very close. The large collection from Mr. J. R. Nickerson, of Lincoln, surpassed all of his former displays, embracing some 400 varieties of all kinds of fruits and vines. Mr. Shaw of Sonoma, Brumlor of Placerville, Carpenter of Diamond Springs, Garrett of Placerville, with many others, deserve especial notice for their fine displays.

The Display of Grapes

was the finest that I have ever seen in the State, and embraced many new and choice varieties. This branch of the fruit exhibition, seemed to be highly appreciated by our eastern visitors. Taking the entire exhibition this year, with the fruit, it far excelled all which have preceded.

I shall have about 50 varieties of the choicest fruit, cast in wax by a competent person, to be placed on exhibition at the next State Fair, so that we may see if any improvements are being made.

Wines.

The display this year was the largest made by fruit-growers that I have ever seen, and much of it was of a very fair quality; there was also much competition and all parties seemed well pleased with their awards.

In Conclusion

I will say that during the 15 years past, that I have been connected with fairs, I must say that I have never seen one so well conducted as this has been. The Board of Managers as well as the different clerks all seemed to do all that they could to make the contributors at home. Not a jar or a word of ill feeling did I hear or see, and when the awards were announced all seemed to be well pleased with the result.

OUR SPECIAL MENTION of a number of important articles on exhibition at the State Fair is crowded out this week.



Cling to Those Who Cling to You.

There are many friends of Summer,
Who are kind when flowers bloom,
But when winter chills the blossoms
They depart with the perfume.
On the broad highway of action,
Friends of worth are far and few;
So, when one has proved his friendship,
Cling to him who clings to you.

Do not harshly judge your neighbor,
Do not deem his life untrue,
If he makes no great pretensions—
Deeds are good, though words are few.
Those who stand amid the tempest,
Firm as when the skies are blue,
Will be friends while life endureth—
Cling to those who cling to you.

When you see a worthy brother
Buffeting the stormy main,
Lead a helping hand fraternal,
Till he reach the shore again.
Don't desert the old and tried friend,
When misfortune comes to view,
For he then needs friendship's comfort—
Cling to those who cling to you.

A MANAGING WIFE.

Ezra Newton had just finished looking over his yearly accounts. "Well," asked his wife, looking up, "how do you come out?" "I find," said her husband, "that my expenses during the last year have been thirty-seven cents over a thousand dollars."

"And your income has been a thousand dollars." "Yes. I managed pretty well, didn't I?"

"Do you think it managing well to exceed your income?" said his wife. "What's thirty-seven cents?" said Mr. Newton, lightly.

"Not so much to be sure, but still something. It seems to me that we ought to have saved instead of falling behind."

"But how can we save on this salary, Elizabeth? We haven't lived extravagantly. Still it seems to have taken all."

"Perhaps there is something in which we might retrench. Suppose you mention some of your items."

"The most important are, house rent, one hundred and fifty dollars, and articles of food, five hundred dollars." "Just half." "Yes, and you'll admit that we can't retrench there, Elizabeth. I like to live well. I had enough of poor board before I married. Now I mean to live as well as I can."

"Still we ought to be saving up something against a rainy day, Ezra. Let me make a proposition to you," said Mrs. Newton. "You say that one half of your income has been expended on articles of food. Are you willing to allow me that sum for the purpose?"

"You guarantee to pay all bills out of it, and relieve me of all care on that point?" "Yes."

"Then I will shift the responsibility upon you with pleasure. But I can tell you beforehand you won't be able to save much out of it."

"Perhaps not. At any rate I will engage not to exceed it."

"That's well. I shouldn't relish having any additional bills to pay. As I am paid every month, I will at each payment hand you half the money."

The different characters of the husband and wife may be judged from the conversation which has been recorded. The time at which this conversation took place was at the commencement of the second year of their married life.

The first step which Mrs. Newton took on accepting the charge of the household expenses, was to institute the practice of paying cash for all articles that came under her department. She accordingly called on the butcher and inquired:

"How often have you been in the habit of presenting your bills, Mr. Williams?"

"Once in six months," was the reply.

"And I suppose you sometimes have bad bills?" "Yes, one-third of my profits, on an average, are swept off by them."

"And you could afford, I suppose, to sell somewhat cheaper for ready money?"

"Yes, and I would be glad if all my customers would give me a chance to do so."

"I will set them an example, then," said Mrs. Newton. "Hereafter whatever

articles shall be purchased of you will be paid for on the spot, and we shall expect you to sell as reasonably as you can."

This arrangement was also made with others, who, it is scarcely needful to say, were very glad to enter into the arrangement. Ready money is the great support of trade, and a cash customer is worth two who purchase on credit.

Another plan which occurred to her as likely to save expense, was to purchase articles in large quantities. There are many ways in which a careful housekeeper is able to limit expense which Mrs. Newton did not overlook. With an object in view, she was always on the lookout to prevent waste, and to get the full value of whatever was expended.

The result was beyond her anticipation. At the close of the year, she found that she had \$150, besides re-imbursing herself for the money used during the first month, and having enough to last another.

"Well, Elizabeth, have you kept within your allowance?" asked her husband at this time. "I guess you have not found it so easy to save as you thought for."

"I have saved something however," said his wife, "but how is it with you?"

"That's more than I can say. However, I have not exceeded my income, that's one good thing. I find that I have exactly spent all. But I can't see how you have saved anything. We have lived full as well and I don't know but what better than last year, when we spent five hundred dollars."

"It's knack, Ezra," said his wife smiling.

She was not inclined to mention how much she had saved. She wanted some time or other to surprise him with it when it would be of some service.

"She may possibly have saved up twenty-five dollars, thought Mr. Newton, "or some such trifle," and so dismissed the matter from his mind.

At the end of the second year Mrs. Newton's savings, including the interest, amounted to \$350, and she began to feel quite rich.

Her husband did not think to enquire how she had succeeded, supposing as before, that it could be but a small sum.

However he had a piece of good news to communicate. His salary had been raised from a thousand to twelve hundred dollars.

He added, "As I before allowed you one-half of my income for household expenses, it is no more than fair that I should do so now. That will give you a better chance to save up a part of it than before. Indeed I don't know how you have succeeded in saving any thing thus far."

As before, Mrs. Newton merely said she had succeeded in saving something, without specifying the sum.

Her allowance was increased to six hundred dollars, but her expenses were not proportionally increased at all, so that her saving in the year swelled the aggregate sum in the savings bank to six hundred dollars.

Mr. Newton on the contrary, in spite of his increased salary, was no better off at the end of the year than before. His expenses had increased by a hundred dollars, though he would have found it difficult to tell in what way his comfort or happiness had been increased thereby.

In spite of his carelessness in respect to his own affairs, Mr. Newton was an excellent man in regard to business, and his services were valuable to his employers. They accordingly increased his salary from time to time till it reached sixteen hundred dollars. He had steadily preserved the custom of assigning one-half to his wife for the same purpose as heretofore, and this had become such a habit that he never thought to enquire whether she found it necessary to employ the whole or not.

Thus ten years rolled away. During that time Mr. Newton lived in the same hired house, for which he had paid an annual rent of one hundred and fifty dollars. Latterly, however, he had become dissatisfied with it. It had passed into the hands of a new landlord who was not disposed to keep it in the repair which he considered desirable.

About this time a block of excellent houses were erected by capitalists, who designed to sell or let them as they had opportunity. They were more modern and much better arranged than the one in which Mr. Newton now lived, and he felt a strong desire to move into one of them. He mentioned it to his wife one morning.

"What is the rent Ezra?" Inquired his wife.

"\$225 for the corner house; \$200 for either of the others."

"The corner one would be preferable on account of the side windows."

"Yes, as they have a large yard besides. I think we must hire one of them. I guess I'll engage one next week."

"Please wait, Ezra, till to-morrow before engaging one."

"For what reason?"

"I should like to examine the house."

"Very well, I suppose to-morrow will be sufficiently early."

Soon after breakfast Mrs. Newton called on Squire Bent, the owner of the new block and intimated her desire to be shown the corner house. The request he readily complied with; Mrs. Newton was quite delighted with all the arrangements, and expressed her satisfaction.

"Are those houses for sale, or to let?" she enquired. "Either," said the owner.

"The rent is I understand \$225." "Yes, I consider the corner house worth at least \$25 more than the rest."

"And what do you charge for the house, to a cash purchaser?" asked Mrs. Newton, with subdued eagerness.

"\$4,000 cash," was the reply; and that is but a small advance from the cost.

"Very well, I will buy it of you," added Mrs. Newton. "What did I understand you to say?" asked the squire, scarcely believing his ears.

"I repeat that I will buy this house of you at your price and pay you the money within a week."

Then the house is yours. But your husband said nothing of his intention, and in fact I did not know—

"That he had the money to invest, I suppose you would say. Neither does he know it, and I must ask you to keep it from him for the present."

The next morning Mrs. Newton invited her husband to take a walk, but without specifying the direction.

They soon stood in front of the house he desired to live in. "Wouldn't you like to go in," she inquired.

"Yes, it's a pity we haven't got the key."

"I have the key," said his wife and forthwith walked up the steps and proceeded to open the door.

"When did you get the key of Squire Bent?" asked her husband.

"Yesterday when I bought the house," said his wife quietly.

Mr. Newton gazed at his wife in profound astonishment.

"What on earth do you mean, Elizabeth," he enquired.

"Just what I say. The house is mine, and what is mine is thine. So the house is yours, Ezra."

"Where in the name of goodness did you raise the money?" asked her husband, in amazement still as great as ever.

"I haven't been a managing wife for ten years for nothing," said Mrs. Newton, smiling.

With some difficulty Mrs. Newton persuaded her husband that the price of the house was really the result of her savings. He felt when he surveyed the commodious arrangements of the new house that he had reason to be grateful for the prudence of his managing wife.

Employment of Girls.

A writer in one of our exchanges says: When girls are taught at their mother's knee, at the home fire-side, in school, and in society, that it is as disgraceful for them to be loafers as it is for their brothers, we shall have girls demanding and getting that thoroughness of mental and technical training which is needed in the legitimate and successful pursuit of any employment, and not before. We shall have a standard then for scholarship, and woman will look upon education as something better than mental ruffles and furbelows, or as a mere means of enabling them to support themselves in genteel independence until they can marry, and we shall hear no more of lack of employment for women.

KEEP BUSY.—If every man, woman, boy, and girl would daily strive to make the best of all the powers God has given them, and do all the good they can, there would be but little misery in the world. Never sit by your fireside and complain of ennui, weariness, or scandal, or any other trifling gnat-bite. If you suffer from such evils, it is your own fault.

ANTI-CHIGNON.—The ladies of Germany have organized an Anti-Chignon Society, which it is said, numbers many thousands of members. It would be well if the ladies of this country would follow the example of their Teutonic Sisters, and make a strike against one of the most hideous fashions that was ever introduced into civilized society.

Young Folks' Column.

Letters of Recommendation.

A gentleman advertised for a boy to assist him in his office, and nearly fifty applicants presented themselves to him. Out of the whole number he in a short time selected one and dismissed the rest.

"I should like to know," said a friend, "on what ground you selected that boy, who had not a single recommendation?"

"You are mistaken," said the gentleman, "he had a great many. He wiped his feet when he came in and closed the door after him, showing that he was careful. He gave up his seat instantly to that lame old man, showing that he was kind and thoughtful. He took off his hat when he came in and he answered my questions promptly and respectfully, showing he was polite and gentlemanly. He picked up the book which I had purposely laid upon the floor, and replaced it on the table, while all the rest stepped over it or shoved it aside, and he waited quietly for his turn, instead of pushing and crowding, showing that he was honest and orderly. When I talked to him I noticed that his clothes were carefully brushed, his hair in nice order, and his teeth as white as milk; and when he wrote his name I noticed that his finger nails were clean instead of being tipped with jet, like that handsome little fellow in the blue jacket. Don't you call those things letters of recommendation? I do, and I would give more for what I can tell about a boy by using my own eyes ten minutes, than for all the fine letters he can bring me."

Duck-Stone.

This is a new game for the young folks, and is played better by a large number of players than a few, as follows:—

A large stone called the "Mammy," with, if possible, a flat top, is selected, and "home" is marked off about twelve feet from it. The players having provided themselves with stones or "ducks," and agreed in what succession they will play, each pitches his duck at the "Mammy," and the one who makes the worst shot becomes "Duck." Duck then places his stone upon the Mammy, and the other players endeavor to knock it off. Each time it is knocked off Duck must replace it, and the throwers pick up their stones and endeavor to run home while he is so occupied. But if, while they are attempting to escape, Duck touches either, he vacates his post in favor of the person touched, or should a thrower's duck fall short of the Mammy, Duck may mark him if he can.

"NOT FOR A HUNDRED, SIR."—"Here, my dear—drink a glass of wine," said a lady as she handed a glass of sparkling champagne to a bright boy. "No, I thank you, ma'am; I belong to the cold-water band," replied the boy. "I'll give you a dime if you will drink it," said a gentleman who wanted to test the little teetotaler's strength. "Oh! no, sir," rejoined the boy, "I would not break my pledge for a hundred dimes!" Noble young teetotaler! How many of our young readers are as true as he?

A BOY'S LOGIC.—For a specimen of logical consecutiveness of ideas we venture to commend this, for a schoolboy's composition: "Tobacco was invented by a man named Walter Raleigh. When the people first saw him smoking they thought he was a steamboat, and, as they had never seen a steamboat they were frightened."

BOYS AND GIRLS. did you ever think that you can never catch the word that has once gone out of your lips? Once spoken, it is out of your reach; however hard you may try, you can never recall it. Therefore, take care what you say. Never speak an unkind, impure, lying or profane word.

NEVER BET.—A bright-eyed little fellow in one of the Brooklyn private schools having spelt a word, was asked by his teacher, "Are you willing to bet that you are right, Bennie?" The boy looked up with an air of astonishment and said, "I know I'm right, Miss V., but I never bet."

A LADY, out with her little boy and girl, bought the boy a rubber balloon, which escaped him, and flew up in the air. The girl seeing tears in his eyes, said: "Never mind, when you die and go to heaven you'll dit it."

FOUR GIRLS. neither over eighteen years of age, made regular and efficient hands during the entire harvest just ended on Melrose Farm, Ind. They kept up their stations promptly with the male workers.

DOMESTIC ECONOMY.

Professor Blot on Coffee Making.

Grind the coffee, rather fine than otherwise. I think it is usually ground too coarse. I use a coffee pot with a filter. You can get them at any tin store. Mixed coffee is best. I prefer mixture of Java, Mocha and Marseibo. Soft or spring water is best. Proportions, one quart of water to three ounces of coffee. Of course, it can be made stronger or weaker. Four teaspoonfuls make a quart of very good coffee for breakfast, but too strong for children.

In selecting a filter, or "coffee bigbin," choose one with a bottom of silvered gauze, instead of perforated tin, as the perforated bottom lets the finely ground coffee through. Good coffee cannot be made in what is wrongly called a coffee pot, which has no filter, and is much like a tea pot. Such a utensil requires the coffee to be boiled, which ruins it, leaving a bitter taste, and sends all the aroma to the attic.

When the water is boiling hot, put the coffee in the filter, and pour the water over it, and the coffee is made. If the water does not pass through fast enough, set the kettle on the fire again until the water in it boils, when pour it on again. If all the strength is not extracted at the first making, repeat the operation when needed. The coffee may be dark, even black, when strong, but it must be clear. Each kind of coffee must be roasted separately, and it is better to roast it a day or two before using.

TO PRESERVE BREAD A LONG TIME.—Circumstances sometimes occur when it is desirable to keep bread for a long time. It may be done in the following manner:—Cut the bread into thick slices, and bake it in an oven, so as to render it perfectly dry. In this condition it will keep good for any length of time required, and without turning mouldy or sour, like ordinary bread. The bread thus prepared must, however, be carefully preserved from pressure; otherwise, owing to its brittleness, it will soon fall to pieces. When required for use, it will only be necessary to dip the bread for an instant into warm water, and then hold it before the fire till dry, then butter it, when it will taste like toast. This is a useful way of preserving bread for voyages and also any bread that may be too stale to be eaten in the usual way.

PRESERVED PEARS.—Select large, juicy pears, wholly ripe, and pare them thin, leaving the stems on, but cutting off the black top at the blossom end of the fruit. Lay them in a pan of cold water, after paring. Then simmer the pears in this, half an hour. Then put them in a turcen, covering them with syrup, for two days. At the expiration of this interval, drain the syrup from the pears, and add a pound of sugar to each pint of the thin syrup. Stir in a very little beaten white of egg—say one white to three pounds of sugar—add some fresh lemon peel, grated, and set the syrup over a brisk fire, boiling it for ten minutes, and skimming well. Add lemon juice to flavor it, and put in the pears. Simmer them in this strong syrup until they are transparent. Take them out, spread them to cool, and put them into jars. Keep the syrup warm while the fruit is cooling, and pour it over them.

CRACKED WHEAT.—For a pint of the cracked grain, have two quarts of water boiling in a smooth iron pot, over a quick fire; stir in the wheat slowly; boil fast, and stir constantly for the first half hour of cooking, or until it begins to thicken and "pop up;" then lift from the quick fire, and place the pot where the wheat will cook slowly for an hour longer. Keep it covered closely, stir now and then, and be careful not to let it burn at the bottom.

Wheat cooked thus, is much sweeter and richer than when left to soak and simmer for hours, as many think necessary. White wheat cooks the easiest. When ready to dish out, have your molds moistened with cold water, cover lightly, and set in a cool place. A handful of raisins added with the wheat is nice. Eat warm or cold, with milk and sugar.—*Herald of Health.*

TO PRESERVE CLOTHES PINS.—They should be boiled a few moments and quickly dried, once or twice a month, when they become more flexible and durable. Clothes lines will last longer and keep in better order for wash-day service, if occasionally treated in the same way.

A TURKISH BREAKFAST.—A Turkish breakfast comprises about thirty dishes. Soon after the first dish comes lamb, roasted on the spit, which must never be wanting at any Turkish banquet. Then follow dishes of solid and liquid, sour and sweet, in the order of which a certain kind of recurring change is observed, to keep the appetite alive. The pilau of boiled rice is always the concluding dish. The externals to such a feast as this are: A great round plate of metal, with a plain edge, of three feet in diameter, is placed on a low frame, and serves as a table, about which five or six people can repose on rugs. The left hand must remain invisible; it would be improper to expose it while eating. The right hand is alone permitted to be active. There are no plates, knives, or forks. The table is decked with dishes, deep and shallow, covered and uncovered; these are continually being changed, so that little can be eaten from them. Some remain longer—as roast meat, cold milks and gerkins—and are often recurred to. Before and after dinner they wash their hands. An attendant or slave kneels, with a metal basin in one hand and a piece of soap on a little saucer in the other. Water is poured by him over the hands of the washer from a metal jug; over one of his arm hangs an elegantly embroidered napkin drying the hands upon.

THE ART OF PRESERVING LIVING FLOWERS.—We gave something on the above some weeks since; but should suppose the following might be probable:—Heat fine white quartz-sand in an iron pot, and stir in some stearic acid and spermaceti, in proportions of half-ounce each, to every five pounds of sand. Taken from the fire, the whole is well mixed, and used as follows: A small box, with a drawer lid, with the bottom knocked out, is inverted, and a coarse piece of wire gauze placed inside, over the lid, which now forms the bottom. This sieve is then covered with a layer of the prepared sand. The flowers, promptly trimmed, are then placed on this sand, and completely embedded in more of it, to keep them in position. The box, covered with paper, is then placed in a room or oven, in which a temperature of one hundred to one hundred and ten degrees Fahrenheit is kept up, in which they will soon be dried. When this point is reached, the lid of the box is drawn, which causes the sand to fall out, leaving the dried flowers on the gauze.—*Bright Side.*

AN EXCELLENT ECONOMICAL PUDDING.—Pare and core half a dozen easily cooked apples, chop them into small bits; dry some bread in the oven—stale is the best—till it is crisp, then roll it into crumbs; butter a deep dish and place in it a layer of crumbs; then put in the apples, with a little sugar, and such spices as you like, cover the apples with another layer of crumbs, and so on, adding a little beef suet, chopped as finely as possible; pour in half a pint of milk; bake till nicely browned, and serve with hard sauce. Having many times made this pudding in our own family, we can speak advisedly of its excellence.—*Germantown Telegraph.*

KEEP THE KITCHEN AIR PURE.—A little sink near a kitchen door-step, inadvertently formed, has been known, although not exceeding in its dimensions a single square foot, to spread sickness through a whole household. Hence, everything of the kind should be studiously obviated, so that there should be no spot about a farmhouse which can receive and hold standing water, whether it be the pure rain from the sky, the contents of a wash-basin, the slop-bowl, or the water-pail.—*Home and Health.*

TO CLEAN SILVER.—Wash in hot soap suds (use the silver soap if convenient); then clean with a paste of whiting and whiskey. Polish with buckskin, or clean with camphene. If silver was always washed in hot suds, rinsed well, and wiped dry, it would seldom need anything else.

NEVER rub soap on flannel. Make a suds by dissolving the soap in warm water. Rinse in warm water; very cold or hot water will shrink flannel. Shake them out several minutes before hanging to dry. Blankets can be washed in the same way.

A VERY quick drying paint may be prepared with half a quart of boiled oil, one gill, gold size, and dry color half a pound. This will dry in about an hour.

MONOGRAM DOUGHNUTS are the latest novelty among the F. F.'s. of Ohio.

Domestic Receipts.

HOME MADE SODA.—Dissolve five ounces of tartaric acid, in four quarts of boiling water, to which add six pounds of white sugar, the whites of six eggs well beaten to a froth, and two tablespoonfuls of lemon, pineapple, vanilla, ginger, or any flavoring extract one chooses. Boil all together in a porcelain kettle for ten minutes, or until the sugar is dissolved. Just before taking from the fire, add the whites of the eggs, stirring in while you count 300 slowly. Strain, add the essence when taken from the fire, and bottle tightly. When desired for a drink, measure two tablespoonfuls of it into half a teaspoonful of baking soda or saleratus, and you will have a very good substitute for a glass of soda water, which will both cool and refresh you.

To whiten straw hats, scrape stick sulphur with a knife, mix the powder to a mush with water, plaster it thickly over the straw, and place in hot water several hours; brush off when dry. An easy and effectual plan.

To cleanse the inside of jars, fill them with hot water and stir in a spoonful or more of pearlash; empty them in an hour, and if not perfectly clean, fill again and let them stand a few hours. For large vessels lye may be used.

For fruit stains on napkins, table cloths, etc., pour hot water on the spots—rub in hartshorn or oxalic acid, dissolved in water.

TO RENDER FABRICS UNINFLAMMABLE.—A good preparation for this purpose is a mixture of borax and sulphate of magnesia, or a mixture of sulphate of ammonia and sulphate of lime.

Mechanical Hints.

GREEN VARNISH.—There is a most beautiful transparent green varnish, employed to give a fine glittering color to gilt or other decorated works. As the preparation of this varnish is very little known, an account of it may in all probability prove of interest to many of our readers. The process is as follows:—Grind a small quantity of a peculiar pigment, called "Chinese blue," along with about double the quantity of finely-powdered chromate of potash, and a sufficient quantity of copal varnish thinned with turpentine. The mixture requires the most elaborate grinding or incorporating of its ingredients, otherwise it will not be transparent, and therefore useless for the purpose for which it is intended. The "tint" of the color may be varied by an alteration in the proportion of the ingredients: A preponderance of the chromate of potash causes a yellowish shade in the green, as might have been expected, and vice versa with the blue under the same circumstances. The colored varnish will produce a very striking effect in japanned goods, paper-hangings, etc., and can be made at very cheap rate.—*Cabinet-maker.*

TO RESTORE FURNITURE.—An old cabinet maker says the best preparation for cleaning picture frames and restoring furniture, especially that somewhat marred or scratched, is a mixture of three parts of linseed oil and one part spirits of turpentine. It not only covers the disfigured surface, but restores wood to its original color, and leaves a lustre upon the surface. Put on with a woolen cloth, and when dry, rub with woolen.

PAINTING PAIRS.—In painting the inside of wooden pails, no lead pigment should be used (as serious cases of poisoning have resulted from the contamination of the water by such pigments) but either whiting or gypsum, if a white color is insisted upon, or ochre, if the best material is desired, without regard to color.

GUM TRAGACANTH MUCILAGE can be prepared much more quickly and of a more uniform consistency, by first rubbing up the powdered gum with a little glycerine before the water is added; as in this way the formation of lumps is entirely avoided.

FOR GLAZING LINEN.—A compound may be made by adding to a pint of starch one teaspoonful each of salt and finely-scraped white soap, is recommended for the glazing of linen.

ASHBERRYUM, a substitute for Britannia metal, invented by Ashberry, of Manchester, consists of 80 parts tin, 14 of antimony, 2 of copper, 2 of nickel, one of aluminium, and one of zinc.

TO PREVENT LAMPS FROM SMOKING.—Lay the lamp-wicks in vinegar for an hour, and dry them well before they are used.

LIFE THOUGHTS.

KIND feelings are benefits as much as kind deeds.

A MAN'S actions, not his opinions, render him valuable.

BETTER be understood by ten than admired by ten thousand.

MANY a professing Christian has Jacob's voice, but Esau's hand.

HE who reforms himself has done much toward reforming others.

THIS is the method of genius, to ripen fruit for the crowd by those rays of whose heat they complain.

THE higher you rise, the higher is your horizon; so, the more you know, the more you will see to be known.

HE is happier who has little, and with that little is content, than he who has much, with impatience for more.

THE first ingredient in conversation is truth, the next, good sense, the third, good humor, and the fourth, wit.

MANY men have the materials of happiness placed within their reach, but not one in ten knows how to manufacture anything out of them, except ennui.

A WEAK mind sinks under prosperity as well as adversity. A strong and deep mind has two highest tides—when the moon is at the full, and when there is no moon.

As there are none so weak that we may venture to injure them with impunity, so there are none so slow that they may not sometime be able to repay an obligation.

THE doors of fictitious pleasures are often closed and barred against us, that we may be forced to seek the approaches to real substantial happiness.

Economical Habits.

With certain limitation it is true that a man who cannot save a margin from a small income, will never save anything from a large one. Wants are always more plentiful than dollars. The habit of self-denial is rather more easily cultivated when the means for supplying them are limited, then when more ample means have created new tastes and desires. Therefore, if you would grow rich, you must begin to save when you begin to acquire. A single dollar saved is often a larger proportion of actual necessities; than the thousands your rich neighbor places in the bank. Early savings have the longest time to grow. A dollar saved at twenty, will count as much as sixteen saved at sixty. Many young men spend in cigars alone, between the ages of fifteen and twenty-five, sums of money, which, if properly invested, would accumulate to an amount, by the time they reach fifty years of age, ample to meet the necessities of age, and to render them independent for the remainder of their lives.

THE BEST HAVE THEIR FAILINGS.—A painter was once engaged upon a likeness of Alexander the Great. In one of his great battles Alexander had received an ugly scar on the side of his face. The artist was desirous of giving a correct likeness of the monarch, and, at the same time, desirous of hiding the scar. It was a difficult task to accomplish. At length he hit upon a happy expedient. He painted him in a reflective attitude, his hand placed against his head, while his finger covered the scar. The best men are not without their failings—their scars—but do not dwell upon them. In speaking of them to others, adopt the painter's expedient, and let the finger of love be placed on the scar.

FORTUNE.—"I am old enough," says Smollet, in a letter to his friend Garrick, "to have seen and observed that we are all playthings of fortune; and that it often depends upon something as insignificant and precarious as the tossing up of a half-penny, whether a man rises to affluence and honors or continues to his dying day struggling with the difficulties and disgraces of life."

COMPENSATION.—If thou hast wronged thy brother in thought, reconcile thee to him in thought. If thou hast offended him in words, let thy reconciliation be in words. If thou hast trespassed against him in deeds, by deeds be reconciled to him. That reconciliation is most kindly which is most in kind.

WORK with a zeal and a purpose. Let the soul go forth in a full tide of love to all mankind, counting all men as brothers whom God appoints to walk in and about our paths.

California State Fair Premiums.

This week we give the full list of premiums awarded for stock, and will publish the balance of awards next week.

CLASS I.—THOROUGHBREDS.

Stallions.—Best four-year-old and over—To Nathan Coombs of Napa for Lodi; \$75.
Best three-year-old and over—To John Hall of Alvarado for Norfall; \$50.

Best two-year-old and over—To John Boggs of Colusa for Tom Merry; \$40.

Best one-year-old—To John Hall of Alvarado for Alic; \$30.

Best colt under one year—To John Hall of Alvarado for —; \$20.

Mares.—Best four-year-old and over with colt—To John Hall of Alvarado for Peggy Ringgold and colt; \$60.

Best four-year-old and over—To A. D. Mailiard of San Rafael for Hennie Farra; \$50.

Best three-year-old—To R. T. Leet of Sacramento for Fringe; \$40.

Best two-year-old—To John Hall of Alvarado for Abi; \$30.

Best one-year-old—To Theodore Winters of Solano for Laura Barnes; \$25.

Best mare colt under one year—To A. D. Mailiard of San Rafael for Bell; \$20.

Families.—Best thoroughbred sire, with not less than ten of his colts, all thoroughbred—To Theodore Winters of Solano for Norfolk; \$100.

Best thoroughbred dam with not less than four of her colts, all thoroughbred—To John Hall of Alvarado for Peggy Ringgold; \$60.

Best stallion other than thoroughbred, with not less than ten of his colts open to all—To Alexander Ely of San Francisco for Alexander; \$75.

Best dam other than thoroughbred, with not less than three of her colts—To Daniel Flint of Sacramento for Nelly Bly; \$50.

CLASS II.—HORSES OF ALL WORK.

Stallions.—Best four-year-old and over—To Joshua Reeves of Placer County for Vibrator \$40.

Best three-year-old—To R. A. Branton of Solano County for Tickle-My-Faney; \$30.

Best two-year-old—To W. D. Ashley of Stockton for Bismarck; \$20.

Best one-year-old—To S. B. Whipple of San Mateo for Speculation; Jr.; \$15.

Mares.—Best four years and over with colt—G. W. McWain of Chico for Julia Ann and colt; \$10.

Best four years and over—John Howes of San Francisco for Lady Grant; \$30.

Best three years old—To Alexander Ely of San Francisco for Dolly; \$20.

Best two years old—To S. B. Whipple of San Mateo for Ada Whipple; \$15.

Best one-year-old—To S. L. Monday of Cacheville for Wild Pigeon; \$10.

CLASS III.—GRADED HORSES.

Stallions.—Best four-year-old and over—To David Berry of Oakland for Henry Williamson; \$50.

Best three-year-old—To D. M. Downey of Solano County for Ironclad; \$40.

Best two-year-old—To J. D. Carr of Monterey for Membrino Patchen, Jr.; \$30.

Best one-year-old—To A. Musick of Sacramento for Selkirk; \$20.

Best colt under one year old, without reference to sex—To Alexander Ely of San Francisco for No Name; \$20.

Mares.—Best four-year-old and over—To James A. Merritt of Napa for Clara Hastings; \$40.

Best three-year-old—To C. H. Shear of Sacramento for Lily Shear; \$30.

Best two-year-old—To S. B. Whipple of San Mateo for Dot; \$20.

Best one-year-old—To C. H. Shear of Sacramento for Peggy McGee; \$15.

CLASS IV.—DRAFT HORSES.

Stallions.—Best four-year-old and over—To John Dardis of Petaluma for Ottawa Chief; \$40.

Best three-year-old—To R. W. Pemberton of Vallejo for Prince June; \$30.

Best one-year-old—To Daniel McCray of San Jose for Black Sand; \$15.

Mares.—Best four year and over, with colt—To John Neal of Sacramento for Eliza and colt; \$40.

Best three-year-old—To F. M. Shepler of Sacramento for Julia; \$25.

Best two-year-old—To A. H. Thomson of Folsom for Mignoni; \$20.

CLASS V.—ROADSTERS.

Stallions.—Best four old and over—To J. E. Miller of Sacramento for St. Clair; \$50.

Best three-year old—To Alexander Ely of San Francisco for Gen. Dana; \$40.

Best gelding four-year old and over—To S. B. Whipple of San Mateo for Westfield; \$40.

Mares.—Best four-year-old and over—To S. B. Whipple of San Mateo for Lady Blanchard; \$40.

Best three-year old—To Joshua Sessions of Brooklyn for Oakland Maid; \$30.

CLASS VI.—CARRIAGE HORSES.

Best matched span, owned by one person—To W. B. Holcombe of San Francisco for Bucephalus and Prince; silver goblet; \$10.

CLASS VII.—ROADSTER TEAMS.

Best double team roadsters owned and used by one person—To Tobin of San Francisco for Paddy McGee and Brown Mac; silver goblet, \$40.

CLASS VIII.—SADDLE HORSES.

Best saddle horse—To A. Musick of Sacramento for Tom Tickle; fine bridle.

CLASS IX.—COLTS.

Best yearling horse colt—To A. A. Bennett of Sacramento for White Nose; \$30.

Best sucking horse colt—To R. M. Briggs of Buckeye for Brick Pomeroy; \$20.

Best yearling mare colt—To C. H. Shear of Sacramento for Peggy McGee; \$20.

Best Sucking mare colt—To John Neal of Sacramento for Flora; \$15.

Best exhibit of not less than six colts, of any age or sex, owned by one person—To S. B. Whipple of San Mateo; \$50.

CLASS X.—SWEEPSTAKES.

Best stallion of any age—To Theodore Winters of Solano for Norfolk; silver pitcher, \$150.

Best mare of any age—To S. B. Whipple of San Mateo for Harvest Queen; silver pitcher, \$100.

CLASS XI.—JACKS AND MULES.

Best jack—To T. E. Price of Hicksville for Mammoth; \$50.

Best jennet—To Thomas Edwards of Sacramento for Lady Franklin; \$40.

Best mule one year old—To Thomas Edwards of Sacramento for Fan; \$15.

CLASS I.—THOROUGHBRED CATTLE.

Durham Bulls.—Best four-year-old and over—To Coleman Younger of San Jose for Glencoe; \$75.

Best three-year-old and over—To R. B. Cannon of Solano county for Perfection; \$10.

Best two-year-old and over—To G. N. Sweezy of Marysville for First Duke of Yuba; \$30.

Best one-year-old and over—To Werner & Hamill of Davisville for Bowling Brook; \$25.

Best bull calf—To Coleman Younger of San Jose for Richmond; \$15.

Cows.—Best four-year-old and over—To Coleman Younger of San Jose for Maggie; \$50.

Best three-year-old and over—To Coleman Younger of San Jose for Sprightly; \$40.

Best two-year-old and over—To R. M. Sparks of Lincoln for Maggie Second; \$30.

Best one-year-old and over—To Coleman Younger of San Jose for Mary Stuart; \$25.

Best heifer calf—To R. B. Cannon of Solano county for Ella Tenth; \$15.

Devon Bulls.—Best bull four years and over—To J. R. Rose of Lakeville, for Bloomfield; \$75.

Best bull three years and over—To J. R. Rose of Lakeville, for Frank Quarterly; \$40.

Best bull one year old and over—To J. R. Rose of Lakeville, for Red Jacket; \$25.

Best bull calf—To J. R. Rose of Lakeville, for Rover; \$15.

Devon Cows.—Best cow four years old and over—To J. R. Rose of Lakeville, for Mand Second; \$50.

Best cow three years old and over—To J. R. Rose of Lakeville, for Mary; \$40.

Best one year old and over—To J. R. Rose of Lakeville, for Nelly; \$20.

Best heifer calf—To J. R. Rose of Lakeville, for Jenny; \$15.

Ayrshire Cattle.—Best cow one year old and over—M. Bryte of Sacramento, for Flora McIvor; \$20.

CLASS II.—GRADED CATTLE.

Bulls.—Best three year old and over—To E. Comstock of Yolo, for Billy; \$30.

Best one-year-old and over—To Werner & Hamill of Davisville, for Billy; \$15.

Best bull calf—To Robt. Ashburner of San Mateo, for Major; \$10.

The committee recommend a special premium to Clarke & Cox for best heifer calf in graded cattle, and also premium for large steer and cow.

Cows.—Best four-year-old and over—To Clark & Cox of Sacramento for Emma; \$30.

Best three-year-old and over—To E. Comstock of Yolo for White Lily; \$20.

Best two-year-old and over—To Robt. Williamson of Sacramento, for Lily; \$15.

Best one-year-old and over—To R. B. Cannon of Solano county for Molly; \$10.

Best herd of any one breed, not less than ten owned by one person—To Coleman Younger of San Jose; \$100.

CLASS III.—CATTLE SWEEPSTAKES.

Best bull of any age or stock—To G. N. Sweezy of Marysville for best bull First Duke of Yuba; silver pitcher worth \$100.

Best cow of any age or stock—To G. N. Sweezy of Marysville for best cow Beauty; silver pitcher worth \$75.

SHEEP AND GOATS.

Stock Sheep and Mutton.—Best ram two years old and over—To Landrum & Rogers of Watsonville for William Wallace; \$20.

Best ram under two years—To Peter Saxe of Sacramento for No Name; \$15.

Best three ewes two years old and over—To Peter Saxe of Sacramento; \$15.

Best three ewes under two years—To Peter Saxe of Sacramento; \$10.

Spanish Merino.—Best ram two years and over—To Amos Roberts of Solano county for Red Leg; \$30.

Best ram under two years—To Smith & Overhiser of Grayson; \$30.

Best three ram lambs—To Thos. McConnell of Elk Grove; \$20.

Best three ewes two years and over—To Amos Roberts of Solano county; \$20.

Best three ewes under two years—To Smith & Overhiser of Grayson; \$20.

Best five lambs—none entered.

French Merino.—Best rams two years old and over—To Wm. Blaco of Centerville; \$30.

Best ram under two years—To Wm. Blaco of Centerville; \$20.

Best three ram lambs—To William Blaco of Centerville; \$20.

Best three ewes two years old and over—To William Blaco of Centerville; \$20.

Best three ewes under two years—To William Blaco of Centerville; \$20.

Best five ewe lambs—To William Blaco of Centerville; \$20.

Silesian Sheep.—Best ram two years old and over—To Robert Beck of Sacramento; \$30.

Best three ewes two years old and over—To Robert Beck of Sacramento; \$20.

Cotswold Sheep.—Best ram two years old and over—To Peter Saxe of Sacramento; \$30.

Best ram under two years—To Landrum & Rogers of Watsonville for California Chief; \$20.

Best three lamb rams—To Landrum & Rogers of Watsonville; \$20.

Best three ewes two years old and over—To Landrum & Rogers, Watsonville; \$20.

Best three ewes under two years—To Peter Saxe of Sacramento; \$20.

Best five ewe lambs—To Landrum & Rogers of Watsonville; \$20.

Leicestershire Sheep.—Best two-year-old ram and over—To Wm. Blaco of Centerville; \$30.

Best ram under two years—To Wm. Blaco of Centerville; \$20.

Best three ram lambs—To Wm. Blaco of Centerville; \$20.

Best three ewes two years and over—To Wm. Blaco of Centerville; \$20.

Best three ewes under two years—To Wm. Blaco of Centerville; \$20.

Best five ewe lambs—To Wm. Blaco of Centerville; \$20.

Cross between any two thoroughbred—To Smith & Overhiser of Grayson for best ram under two years old (cross between Spanish and French merino); \$20.

The committee awards to H. A. Rawson of Tehama county for the best Southdowns as follows:

One two-year-old buck; special premium on one one-year-old buck, and special premium on pen of five.

Grade or Cross with Spanish Merino.—Best two-year-old and over—To Mrs. Francis Graham of Elk Grove; \$20.

Best ram under two years—To Mrs. Francis Graham of Elk Grove; \$15.

Best three ram lambs—To Mrs. Francis Graham of Elk Grove; \$20.

Best three ewes two-year-old and over—To Mrs. Francis Graham of Elk Grove; \$15.

Best three ewes under two years—To Mrs. Francis Graham of Elk Grove; \$15.

Best five ewe lambs—To Mrs. Francis Graham of Elk Grove; \$15.

Cross with Cotswold.—Best ram two-year-old and over—To H. A. Rawson of Tehama; \$20.

The committee recommended a premium on five bucks exhibited by H. A. Rawson.

Sweepstakes.—Best buck of any age or breed—To Amos Roberts of Solano county to Red Leg; \$30.

Best ewe of any age or breed—To Amos Roberts of Solano county; \$25.

Best pen of not less than five of any age or breed—To Amos Roberts of Solano county; \$30.

Angora Goats.—Best thoroughbred buck—To Gray & Gilmore of El Dorado county for Sultan II.; \$30.

Best thoroughbred she goat—To Landrum & Rogers of Watsonville; \$20.

Best thoroughbred three kids—To Gray & Gilmore of El Dorado county; \$20.

Graded Goats.—Best lot of three—To Gilmore of El Dorado county; \$15.

SWINE.

Best boar two-year-old and over—To M. Sprague of Sacramento for Dick; \$30.

Best boar under two years—To R. S. Thompson of Napa for General Warren; \$20.

Best boar six months old and under one year—To R. S. Thompson of Napa; \$10.

Best breeding sow two years old and over—To Peter Burns of Sacramento for Mary; \$25.

Best breeding sow one-year-old—To R. S. Thompson of Napa for Victoria Second; \$15.

Best sow six months old and under one year—To R. S. Thompson of Napa; \$10.

Best lot of not less than six pigs, not less than five nor more than ten months old—To R. S. Thompson of Napa; \$20.

Committee also recommend a special premium to Peter Saxe of Sacramento.

POULTRY.

Best white or gray Dorkings—Peter Burns of Sacramento; \$5.

Best Jersey blues—Peter Burns of Sacramento; \$5.

Best lot of English game—Charles Green; \$5.

Best Light Brahmas—T. E. Finley, Agent California Stock and Poultry Association; \$5.

Best two lots of dark Brahmas—T. E. Finley; \$5.

Best two lots of Buff Cochins—T. E. Finley; \$5.

Best two lots of silver-spangled Hamburgs—T. E. Finley; \$5.

Best lot of Silver Polish—T. E. Finley; \$5.

Best lot of Golden Polish—T. E. Finley; \$5.

Best lot of Japan bantams—T. E. Finley; \$5.

Best lot of game bantams—T. E. Finley; \$5.

Best lot of Golden Lace Seabright Bantams—T. E. Finley.

Best lot of Houdans—T. E. Finley.

Best lot of partridge Coehus—T. E. Finley.

Best lot of Rouen ducks—T. E. Finley; \$5.

Best lot of silver-penciled and Dominiques—R. Towne; \$5.

Best lot of Crevcoeurs—C. W. Upson; \$5.

Best lot of turkeys Robert Cowne; \$5.

Best lot of geese—Peter Burns, Sacramento; \$5.

The committee recommended a premium of \$5 to the exhibitor of four pair of Madagascar rabbits.

RIVERSIDE COLONY.—Some time since an association was formed for the purpose of establishing a colony in San Bernardino county, Cal., and circulars were issued, setting forth the advantages of the location, climate, etc. We are informed that thus far the scheme has been a success, although the Magdalena Bay failure has done much to retard the progress of this and other genuine enterprises of the kind. The lands owned by this association are located in the valley of the Santa Anna, San Bernardino county, between the towns of San Bernardino and Anaheim, about 40 or 50 miles from the ocean. The settlement is on the banks of the river, on a bluff about 100 feet above it. An irrigating ditch has been dug, which is 12 miles long, 8 feet wide, and 3 feet deep, with a fall of about one inch to the rod, through which the water flows rapidly. There are now about a dozen families in the valley and our informant states that they are all perfectly satisfied with the prospects ahead. About 100 acres of corn are now growing, but as yet no grain, for the reason that the ditch was only completed in the latter part of July. Judge North, Dr. Greaves and several other members of the association have set out small orchards and are growing, successfully, orange, lemon, olive, fig, apple, pear, grape, and numerous other fruit trees.

We are assured that this is no land-grabbing scheme, but a bona fide enterprise for the purpose of securing both for the members of the association and others, homes at a small expense.

CORN "DOWN BELOW."—The Humboldt (Nev.) Register, lately mentioned that Joe Snapp had raised on his ranch, at Rebel Creek, cornstalks measuring 17 feet in height, with three to five ears to each stalk, and suggested that that beat anything in the corn line on record. But somebody's "Uncle Foote", of Summit Springs, comes to the Register with the story that he had taken considerable pains with a field of promising corn; and that when the "time of the ear" came round, nary ear put in an appearance, and the disappointed cultivator turned a drove of hogs into the field to make the best of the stalks. Upon this, says the Register, the hogs soon commenced rooting up the stubble, and, on further examination, it was found that the stalks had apparently grown downward, and that large, well-filled ears of corn were found growing from six inches to a foot below the surface of the ground, on which the hogs were feasting sumptuously. This may sound somewhat like exaggeration, but Uncle Foote declares it is a literal fact.

U. S. MAIL CARS.—The C. P. R. R. Co. have completed four of the six new mail cars building for the overland route. These cars are elegant, compared with the old style. In addition to a plenty of well-arranged letter and newspaper distributing boxes, each car contains a sleeping room, with "clothes press," refrigerator, wash stand, water closet, etc. The duties of the mail agents in these cars are similar to those of a first-class distributing office.

PURITY OF THE BALLOT.—Most of the political evils with which this county is afflicted is traceable to the use of money in buying influence. The English, recognizing this fact, have proposed a law absolutely invalidating the election of any candidate who by himself or agent shall spend money to secure his own election. We cannot under our Constitution pass so sweeping a measure as that, but we can and should so arrange matters as to pretty effectually eliminate the power of money from our political contests.

NEW STYLE OF SULKY.—Mr. John A. Bilz, of Pleasanton, Cal., has an improved method of constructing sulkies, which is said to make his vehicles very popular.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Sept. 28th.

FLOUR—The market still continues quiet with moderate demand for export. Sales reported embrace 3,000 bbls. Cal. extra, 2,500 Oregon extra and 7,000 Cal. superfine, at current rates. We quote prices unchanged, as follows:

Superfine, \$6.75@7.00; extra, in sacks, \$7.50@7.75. Standard Oregon brands, extra, may be quoted \$7.50@7.75.

WHEAT—The offerings are only moderate, with fair demand for milling, and but little enquiry for export. Sales embrace 17,000 sacks fair to choice at \$2.50@2.67½. Holders demand \$2.65@2.70 for choice, and are offering only small quantities for sale—350 sacks choice at a full figure; 291 do. inferior, \$2.57½ cts. The Liverpool market is quoted at 12s 9d—an advance of 1d per cental.

BARLEY—Has been in fair demand at a small advance. Sales have aggregated about 10,000 sacks at \$1.95@2.12½. At the close we quote at \$2.00@2.12½.

OATS—The demand is only moderate. Sales of 5,000 sacks are reported at from \$1.85@2.00 from fair to choice, which is a fair quotation at the close.

CORN—The market is about the same as last week. We quote at \$2.35@2.45.

CORNMEAL—Is quotable at \$2.50@3.25, according to quality.

BUCKWHEAT—Last sales quotable at \$3.00.

RYE—Has met with an advance and is quotable at \$2.35@2.40.

STRAW—Quotable at \$8@9 by the cargo.

BRAN—Demand fair at \$30.

MIDDLINGS—For feed are now selling at \$42.50 per ton from mills.

OIL CAKE MEAL—Is quotable at \$40 from the mill, and in good demand.

HAY—There has been a good demand during the past seven days, and prices at the close are firm at \$18@22 for fair to choice ½ ton. Sales are reported of 35 tons inferior wild oats at \$18.50; 6 do. fair at \$19; 30 good at \$21.50 ½ ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The receipts continue free and demand fair at 75@85c for Mission and \$1.00@1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.50.

HOPS—We quote new at 35@40c; crop of 1870 is exhausted.

HIDES—We quote Dry, slaughterer's stock, 17@18c; Salted, 8@9½c. Sales during the week 1,600 Cal. dry, and 2,300 salted.

WOOL—The market still remains somewhat in active, and is in a rather unsettled condition. Good conditioned Northern Fall have sold during the week at 27c@28c—fancy lots as high as 32c. Burry and dirty are neglected. Sales have aggregated about 170,000 lbs.

TALLOW—Market firm at 9½@10c ½ lb.

SEEDS—Flax 3c. for clean; Canary, 8c., Alfalfa, 16c. Mustard—California Brown, 5@7c.

PROVISIONS—California Bacon 14@15c; Oregon, 15½@16; Chicago 14@14½c; Cal. Hams 14½@15; Oregon do, 14½@15c for clear sides and 16@16½c for light breakfast; California Sugar-cured Hams, 17@18c; Oregon do, 16@18c; Eastern do, 19@20c; California Smoked Beef, 14c.

BEANS—Market inactive, the following are jobbing rates: small White \$2.25; small Butter \$2.50; large do, \$2.50@2.75; Pink \$2@2.25; Bayo, \$3.12½ ½ 100 lbs.

ONIONS—Have advanced to 90c@1.00 for good to choice.

NUTS—California Almonds, 10@12½c for hard and 15@20c for soft shell; Peanuts, 7c. Pecan, 23@24c ½ lb., walnuts, 12½@15c, Hickory, 12c; Brazil, 18.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9c ½ lb. Do 2d quality 7@8c ½ lb. Do 3d do 5@6c ½ lb.

VEAL—Extremes, 7@9c.

MUTTON—6@7c ½ lb.

LAMB—May be quoted at 8@9c ½ lb.

PORK—Undressed is quotable at 5@5½c. dressed, 8@8½c.

POULTRY—Live Turkeys, 18@20c ½ lb; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$4.00@4.50; Ducks, tame, \$7.00@7.50 per doz. wild \$1.50@3.50; Geese, \$12@15 ½ dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 37@45c; California firkin butter, 27½@32½c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10@14c, Eastern, 12½@14½c.

EGGS—California fresh, 52½@55c.; and 45@47 for Coast consignments.

LARD—California Lard, 11-lb tins, 13½@14½c; Oregon in bbls. 14½c.; Eastern do. 13@14½c.

FRUIT.

| | | |
|-------------------------|---------|---------|
| Tahitian Oranges. | \$30 00 | @35 00 |
| Limes, 1,000. | 10 00 | @ 15 00 |
| Australian Lemons, 100. | 5 00 | |
| Sicily do, 100. | 10 00 | @ 14 00 |
| Bananas, 100 bunch. | 1 50 | @ 3 00 |
| Cocoanuts, 100. | 8 00 | @ 10 00 |
| Apples. | 30 | @ 1 50 |
| Pears, cooking. | 30 | @ 50 |
| Bartlett do. | 1 25 | @ 2 00 |
| Seckel do, 100. | 1 00 | @ 1 50 |
| Peaches, 100 basket. | 75 | @ 1 50 |

| | |
|----------------------------------|-----------|
| Choice Mountain do, 10 | 5 @ 10 |
| Quinces, 10 box. | 75 @ 1 25 |
| Raspberries, 10 lb. | 12½ @ 15 |
| Strawberries, 10 lb. | 7 @ 9 |
| Plums, 10 lb. | 3 @ 5 |
| Prunes, 10 lb. | 5 @ 6 |
| Blackberries, 10 lb. | 4 @ 6 |
| Figs, 10 lb. | 7 @ 8 |
| Grapes, Sweetwater, 10 lb. | 2 @ 3 |
| Mission do, 10 lb. | 1½ @ 2½ |
| Rose of Peru do, 10 lb. | 2 @ 4 |
| Black Hamburg, do, 10 lb. | 2 @ 4 |
| Muscata of Alexandria do, 10 lb. | 3 @ 6 |
| Flame Tokay do, 10 lb. | 3 @ 8 |
| Isabella do, 10 lb. | — @ — |

DRIED FRUIT.

| | |
|-------------------|---------|
| Apples, 10 lb. | 6 @ 9 |
| Peaches, 10 lb. | 9 @ 11 |
| Apricots, 10 lb. | 9 @ 10 |
| Plums, 10 lb. | 6 @ 8 |
| Pitted do, 10 lb. | 18 @ 22 |

VEGETABLES.

| | |
|----------------------------|-------------|
| Cabbage, 10 lb. | ¾ @ 1¼ |
| Garlic, 10 lb. | 1¼ @ — |
| String Beans, 10 lb. | — @ — |
| Summer Squash, 10 lb. | 1 00 @ — |
| Tomatoes, River, 10 box. | 35 @ — |
| Bay do, 10 box. | 75 @ 1 00 |
| Cucumbers, 10 box. | 1 00 @ — |
| Green Corn, 10 doz. | 12 @ 20 |
| Watermelons, each. | 6 @ 8 |
| Cantaloupes, 10 doz. | 40 @ 1 50 |
| Lima Beans, 10 lb. | 2½ @ 3 |
| Marrowfat Squash, per ton. | 5 00 @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line still remains quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more active. Cargoes of Oregon sell as follows: Rough, \$13@13½; Dressed, \$24; Spruce, \$16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|------------------------------|---------------|---------|
| Rough. | \$15 00 | \$11 00 |
| Surfaced. | 28 00 | 18 00 |
| Tongued and grooved. | 28 00 | 18 00 |
| Tongued and grooved, beaded. | 28 00 | 18 00 |
| Rustic, worked. | 31 00 | 20 00 |
| Siding and battens, ½-inch. | 20 00 | 14 00 |
| Surfaced, ½-inch. | 25 00 | 18 00 |
| Picket, rough. | 14 00 | — |
| Picket, rough, pointed. | 16 00 | — |
| Picket, dressed. | 22 50 | — |

San Francisco Retail Market Rates.

FRIDAY, September 28, 1871

| MISCELLANEOUS. | |
|----------------------|------|
| Butter, Cal. fr. 55 | @ 60 |
| Pickled, Cal. do. 45 | @ 50 |
| do Oregon, 25 | @ 30 |
| Honey, 100 lb. 20 | @ 25 |
| Cheese, 10 lb. 20 | @ 25 |
| Eggs, per doz. 55 | @ 60 |
| Lard, 10 lb. 18 | @ 20 |
| Sugar, cr. 6½ lb. 10 | @ 13 |
| Brown, do. 10 lb. 10 | @ 13 |
| Beet, do. 10 lb. 10 | @ 13 |
| Sugar, Mat. 25 | @ 30 |
| Plums, dried, 15 | @ 25 |
| Peaches, dried, 15 | @ 25 |

| PRODUCE, ETC. | |
|-------------------------|--------|
| Codfish, dry, 10 | @ 8 |
| Flour, ex. 100 lb. 7.50 | @ 8.00 |
| Superfine, do. 6.00 | @ 7.00 |
| Corn Meal, 100 lb. 3.00 | @ 3.25 |
| Wheat, 100 lb. 2.50 | @ 2.75 |
| Oats, 100 lb. 1.50 | @ 1.75 |

| FRUITS, VEGETABLES, ETC. | |
|--------------------------|--------|
| Pine Apples, 100 | @ 90 |
| Bananas, 100 | @ 50 |
| Cal. Walnuts, 10 | @ 20 |
| Cranberries, 10 | @ 75 |
| Cranberries, 10 | @ 75 |
| Apples, Early, 10 | @ 50 |
| Red Astrakhan, 10 | @ 50 |
| Red June, 10 | @ 50 |
| Pears, table, 10 | @ 75 |
| Plums, Cherry, 10 | @ 75 |
| June, 10 | @ 12½ |
| Apricots, 10 | @ 3 |
| Moopark, 10 | @ 3 |
| White, 10 | @ 2½ |
| Raspberries, 10 | @ 18 |
| Blackberries, 10 | @ 8 |
| Oranges, 10 | @ 30 |
| Lemons, 10 | @ 30 |
| Limes, 10 | @ 25 |
| Pigs, dried, 10 | @ 37½ |
| Asparagus, wh. 25 | @ 30 |
| Artichokes, 10 | @ 3 |
| Artichokes, doz. 50 | @ 75 |
| Brussel's sprts. 10 | @ 15 |
| Beets, 10 doz. 20 | @ 25 |
| Potatoes, 10 | @ 2 |
| Potatoes, sweet, 10 | @ 3 |
| Broccoli, 10 doz. 1.50 | @ 2.00 |
| Cauliflower, 10 | @ 1.00 |
| Cabbage, 10 doz. 75 | @ 1.50 |
| Carrots, 10 doz. 10 | @ 25 |

| POULTRY, GAME, MEATS, ETC. | |
|----------------------------|--------|
| Chickens, apiece 50 | @ 75 |
| Turkeys, 10 | @ 25 |
| Ducks, wild, 10 | @ 50 |
| Tame, do. 10 | @ 1 50 |
| Teal, 10 doz. 3 | @ 00 |
| Geese, wild, each 2 | @ 50 |
| Tame, 10 pair. 2 | @ 50 |
| From Chicago. 75 | @ 00 |
| Hens, each. 75 | @ 00 |
| Snipe, 10 doz. 75 | @ 2 50 |
| English, do. 12½ | @ 18 |
| Venison, 10 lb. 12½ | @ 25 |
| Quails, 10 doz. 25 | @ 50 |
| Pigeons, dom. doz. 30 | @ 50 |
| Wild, do. 10 | @ 50 |
| Hares, each. 40 | @ 50 |
| Rabbits, tame. 50 | @ 100 |
| Wild, do. 10 | @ 75 |
| Squirrel, 10 pair. 25 | @ 30 |
| Beef, tend, 10 lb. 20 | @ 25 |
| Sirloin and rib 18 | @ 20 |
| Corned, 10 lb. 10 | @ 12 |
| Smoked, 10 lb. 15 | @ 18 |
| Pork, rib, etc. 12½ | @ 15 |
| Chops, do. 12 | @ 15 |
| Veal, 10 lb. 15 | @ 20 |
| Cutlet, do. 20 | @ 20 |
| Mutton chops, 12½ | @ 15 |
| Leg, 10 lb. 12½ | @ 15 |
| Lamb, 10 lb. 12 | @ 15 |
| Tongues, beef, 10 | @ 75 |
| Tongues, pig, 10 | @ 15 |

* Per lb. + Per dozen. † Per gallon.

PLACERVILLE, Sept. 1, 1871.

MRS. DEWEY & Co.—Gentlemen: I am happy to acknowledge the receipt of my Letters Patent for my Self-Generating Gas Burner; and for the manner in which you conducted the case, I will say that it is entirely satisfactory; and I can assure you that I will recommend others to you who have Patents to obtain.

Yours respectfully, C. B. BROWN.

\$5 TO \$20 PER DAY AND NO RISK.—Do you want a situation as salesman at or near home to introduce our new 7-stand White Wire Clothes Lines, to last forever. Don't miss this chance. Sample Free. Address: Hudson River Wire Works, 75 William street, N. Y., or 1 Dearborn street, Chicago, Ill. 23v1-12mbp

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|--|-----------------|
| SAN FRANCISCO, Thursday, September 28. | |
| SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good. | |
| City Tanned Leather, 10 | 26 @ 29 |
| Santa Cruz Leather, 10 | 26 @ 29 |
| Country Leather, 10 | 26 @ 29 |
| French stocks come in more freely, and prices are easier in leading kinds. The cheaper grades still continue firm. | |
| California kip and calf skins are still scarce and high. | |
| Jodot, 8 Kil, per doz. | \$80 00 @ 85 00 |
| Jodot, 11 to 19 Kil, per doz. | 80 00 @ 85 00 |
| Jodot, second choice, 11 to 15 Kil. 10 doz. | 80 00 @ 80 00 |
| Lemoine, 16 to 19 Kil, 10 doz. | 85 00 @ 90 00 |
| Levin, 12 and 13 Kil, per doz. | 88 00 @ 70 00 |
| Cornellian, 16 Kil, per doz. | 72 00 @ 00 |
| Cornellian, 12 to 13 Kil, per doz. | 65 00 @ 70 00 |
| Ozera Calf, 10 doz. | 54 00 @ 00 |
| Mercier Calf, 16 Kil, per doz. | 65 00 @ 00 |
| Robert Calf, 7 and 8 Kil. | 35 00 @ 40 00 |
| Common French Calf Skins, 10 doz. | 35 00 @ 75 00 |
| French Kips, 10 lb. | 1 00 @ 1 30 |
| California Kip, 10 doz. | 65 00 @ 80 00 |
| Eastern Wheel Stuffed Calf, 10 lb. | 80 00 @ 1 25 |
| Eastern Bench Stuffed Calf, 10 lb. | 1 10 @ 1 25 |
| Eastern Calf for Backs, 10 lb. | 1 15 @ 1 25 |
| Sheep Roams for Topping, all colors, 10 doz. | 8 00 @ 13 00 |
| Sheep Roams for Linings, 10 doz. | 5 50 @ 10 50 |
| California Russet Sheep Linings, 10 doz. | 1 75 @ 5 50 |
| Best Jodot Calf Boot Legs, 10 pair | 5 25 @ 5 00 |
| Good French Calf Boot Legs, 10 pair. | 4 50 @ 5 00 |
| French Calf Boot Legs, 10 pair. | 4 00 @ 4 50 |
| Harness Leather, 10 lb. | 40 @ 37½ |
| Fair Bridle Leather, 10 doz. | 48 00 @ 72 00 |
| Skirting Leather, 10 lb. | 34 @ 37½ |
| Welt Leather, 10 doz. | 30 00 @ 50 00 |
| Ruff Leather, 10 foot. | 17 @ 21 |
| Wax Side Leather, 10 foot. | 18 @ 29 |

The Pacific Rural Press

is one of the Largest, best illustrated and most Original and Entertaining Agricultural Journals in America, and has no rival on the Western side of the Continent. Its circulation is Rapidly increasing, and it is Very Popular with its Patrons.

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as it were, is being developed on the Pacific Coast, by its peculiar seasons, soil, climate and topography. The new ideas, and useful hints evolved in its rapid progress, are to be observed with interest, and read, as reported in the PACIFIC RURAL, with profit by practical and progressive agriculturists everywhere. Sample copies of the Press, post paid, 10 cts. Subscription, \$4 a year.

DEWEY & CO.,
Publishers, San Francisco, Cal.

THE RURAL PRESS.—We have received in exchange the RURAL PRESS, published by Dewey & Co., San Francisco; also the SCIENTIFIC PRESS. For the farmer no better paper exists in the State, and the latter is invaluable to the mechanic. They are both most ably edited. We regard the PRESS as one of our best exchanges. —Mendocino Herald, Ukiah, Sept. 30th.

Premium for New Subscriptions.

There are many persons not familiar with the value of the PRESS who would ever after be thankful to our present subscribers for bringing their names on to our list of intelligent readers.

Large additions can be made with little effort by the many in this way. We therefore offer (post paid) a premium of one of the patent newspaper file holders (advertised in this paper) for every two new subscriptions received with \$8 advanced payment.

Go to the Best.—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS.

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EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

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Subscribers will notice that the figures found on the right of the pasted slips, represent the date to which they have paid. For instance, 21sep70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4j173, to the 4th of July, 1873. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction. Please notify us if you are not properly credited within two weeks after paying.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

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Complete Volumes of the Scientific Press from January, 1864, can be had at this office at \$3 per volume. Bound in cloth, \$5. A limited number only on hand.

Send us Communications.—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

Volume One of the Pacific Rural Press can be had at this office for \$3. Bound, \$5. A few copies only for sale now.

Thursday Noon our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

THE RURAL PRESS.—Believing as we do that every farmer in our valley would be well repaid for the expenditure of a few dollars in procuring a good paper specially devoted to the agricultural interests of the Pacific Coast, we commend the PACIFIC RURAL PRESS as the best one within our knowledge for the purpose. Any of our subscribers desiring a specimen copy can have it by application at this office, and in a club with this paper, subscription can be had at reduced rates. —Independent, Inyo Co.

A FLORENCE SEWING MACHINE, but slightly used, and good as new, for sale at 10 per cent. less than its cost—\$67.50. Part of the money may be paid in installments by a person who gives good recommendations—in the city, or in the country near San Francisco. To be seen at John I. Tay's, Broadway, Oakland. apl-up-tf

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What our Neighbors say of the Pacific Rural Press.

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The first No. evinces marked editorial ability....Fills up a vacancy that has been felt in our agricultural department....With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—*Sacramento Dem.*
It is a work which no farmer should be without.—*Yreka Union.*

An admirable specimen both as to execution and contents....Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural Yorker is to the Middle and Northern States.—*Enclinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*Enclinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.
Excellent paper and type—and a first-class agricultural journal....Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—*Arizona Miner.*

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Just the kind needed on this coast, and merits an extended circulation.—*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.
The heading is beautiful and appropriate.—*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press*. If the first number is to be taken as an earnest of what will follow, each week, we can advise say to all interested in agricultural pursuits...subscribe.—*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—*King's River.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that L. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—\$4 a year; or to a club of 10 or more, \$3. Sample copies sent on receipt of a postage stamp.—*Alpine Miner.*

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yacht-racing, etc., but will be a respectable family journal.—*Democrat, Downville.*

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—*Alpine Chronicle.*

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It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—*Helenia, (M. T.) Gaz.*

Will be found worthy the patronage of the people of this State.—*Argus, Snelling.*

We heartily welcome the new publication.
The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

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FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a taking picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

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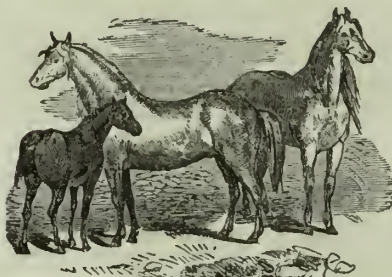
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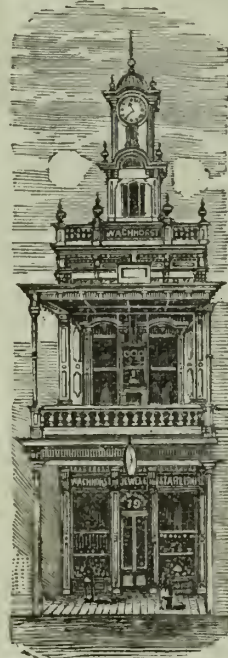
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Croft's Western World,

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PROSPECTUS.

The first number of CROFT'S WESTERN WORLD will be ready as nearly as possible on the 15th of October next, and will be issued regularly thereafter once a month. The object of the paper will be to represent fairly the railroad and kindred interests of the Great West, and to present in a concise and convenient shape such information concerning Climate, Soil, Productions, Railroads, Lands, Farms, Local Industries, and Routes of Travel, as will prove most valuable to Tourists, Miners, and Settlers in the vast area beyond the Mississippi River. There can hardly be a member of these three classes (and they comprise all who turn toward the "far West") who has not felt the need of some such paper; yet there is none, of respectable pretensions, which has even attempted to occupy the field. So rapid is the march of improvement in that Great West, that a book, however valuable, is stale almost as soon as it is published. We believe, however, that a record which is written anew every month can keep up with even the restless strides of the track-layer and pioneer, and it is our intention that CROFT'S WESTERN WORLD shall furnish the traveler or settler in the West with just such information as he needs, and to have it not only accurate, but fresh.

The plan of the paper comprises—
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3. Outlines of excursions to the various points of interest in the West, with details as to cost, etc.
4. Portraits and biographical sketches of the leading men of the West—the men who have widened its boundaries, built its railroads, and developed its industries.
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9. We shall have our say on the "Indian question," and tell some startling truths, based on personal experience and observation.

The publisher, having long experience and extensive acquaintance in the West, believes that he is possessed of facilities for carrying out this plan fully, and, with confidence, introduces the WESTERN WORLD to the public.

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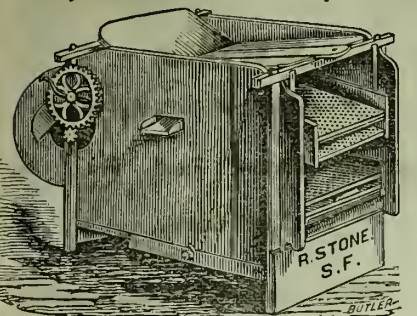
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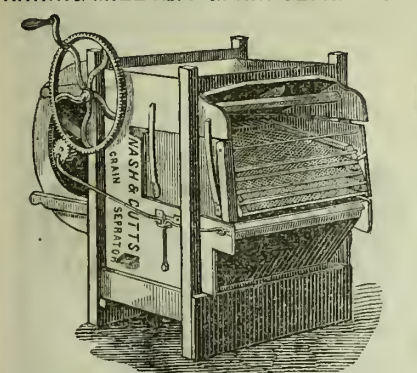
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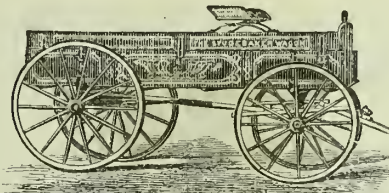
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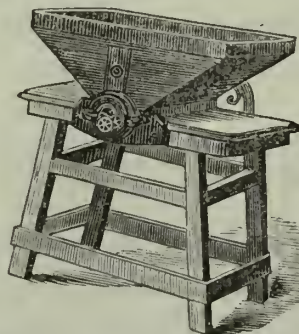
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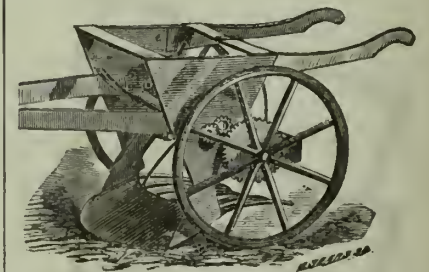
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Volume II.]

SAN FRANCISCO, SATURDAY, OCTOBER 7, 1871.

[Number 14.]

HISTORICAL RECORD.

History of Our Country Towns—No. II.

KNIGHTS FERRY,

STANISLAUS COUNTY, CAL.

[Written for the Press by MARY JAMESON LOCKE.]

Pen-scratching among the stale and well-

forgotten rubbish of dead ages is a grave business and requires a certain style of courage; but a wary and gingerly audacity is much needed by the writer who arrests in mid-career a growing California town, tricks it out with shreds and patches of memory, labels it History, and trots it forth for public inspection.

In near view of this task I shrink and falter. The subject is so young, so alive, so unconscious of impending "treatment," and if Mr. Editor would allow a choice of historical "bones to pick," I would much prefer to serve up ancient Gaul, or sketch the rise and fall of the Tower of Babel; or give an inky outline of that obscurest and busiest

of all ferries, that plied on fabled Styx, and whose grim boatman was known to shuddering souls as Charon, son of Erebus and Nox.

Mining towns in California have been addicted to the mushroom habit of springing alert and fullgrown upon the world; and this swift surprise of life has so often resulted in equally rapid decay, that the dry bones of scores of California towns and camps now lie bleaching upon the hillsides or grimly desolate in silent valleys.

Luckily for the historian, Knights Ferry has a Past, and several well-defined epochs of normal growth. Doubtless there are many who remember when the town began to cut its eye teeth—wear "store clothes" and deal lavishly in wild oats and other outcroppings peculiar to the period. Possibly there is an "oldest inhabitant" who listened to pre-historic traditions during those early days when there was not much sign of the coming town; merely a "crossing" for the eager throng whose land of golden promise lay beyond. Knights Landing on the Sacramento also owes its name to

Capt. Knight,

who left his family there, when in the spring of '49 he "struck out" to prospect

the Stanislaus, upon whose banks he pitched the pioneer tent, built the first ferry, started the first hotel, to lay down to rest in the first white man's grave. He had been a famous trapper, hunter, and guide in one or more of Fremont's expeditions. Thus familiar with the country, and directed by native shrewdness, he was led to select this point on the Stanislaus as the natural gateway of travel from the plains to the mountains; for the road would pret-

She mumbled the dim tradition that this smiling valley had once been a great, wide lake, and the story is also written on the surrounding hills.

A remnant of these Indian tribes may still be found at their rancheria near town. The close contact with civilization has been followed by the usual fatal results.

After the death of Capt. Knight the ferry and belongings were owned by Dent & Vantyne; but the latter—who had been Capt. Knight's partner—soon sold his interest to the brothers, John & Lewis Dent, who

he went with his company. But those were the days when capital lurked and gave no sign.

Coming again to prospect the mill-site in 1853 he could join the laugh at his own expense when Capt. Dent whisked from a safe the greatest oddity of an old buckskin bag, (about two feet long and shaped like a gourd with huge pouch at bottom,) and exclaimed:

"There Mr. Locke! when Capt. Knight offered to advance funds to build a mill, he had this packed full of gold dust and no

knowing how much more stowed away under his old bunk!"

A business partnership was now formed, and the firm of Locke & Dent proceeded to put in the first permanent dam that ever crossed the Stanislaus.

By June of 1854 thiersawmill was running, and about four months later their flouring mill was grinding away upon some of the first wheat ever raised in this region, that has since become almost world-famous for its immense wheat crops.

Agriculture at this time was taking its first timid steps; fruit culture and gardening had not yet become fashionable in the foothills. Knights Ferry was still a mere stage station, of hotel, store, stable, blacksmith shop, and a few rough cabins and tents, where the usual assortment of culture, coarseness, brains, and brawn, enjoyed the luxury of "rough-

ing it," and cultivated the fine culinary art of frying pork and slap-jacks.

While it was yet hot in the summer of '54, there "might have been seen" sauntering along the crooked trail that led from ferry to mill a quiet, unobtrusive man, who sometimes sought a shady spot where he could comfortably smoke, whittle, watch the mill-wheels noisy whirr, or possibly take a little nap, and dream of future greatness. To some of the citizens he was introduced as

Capt. Grant;

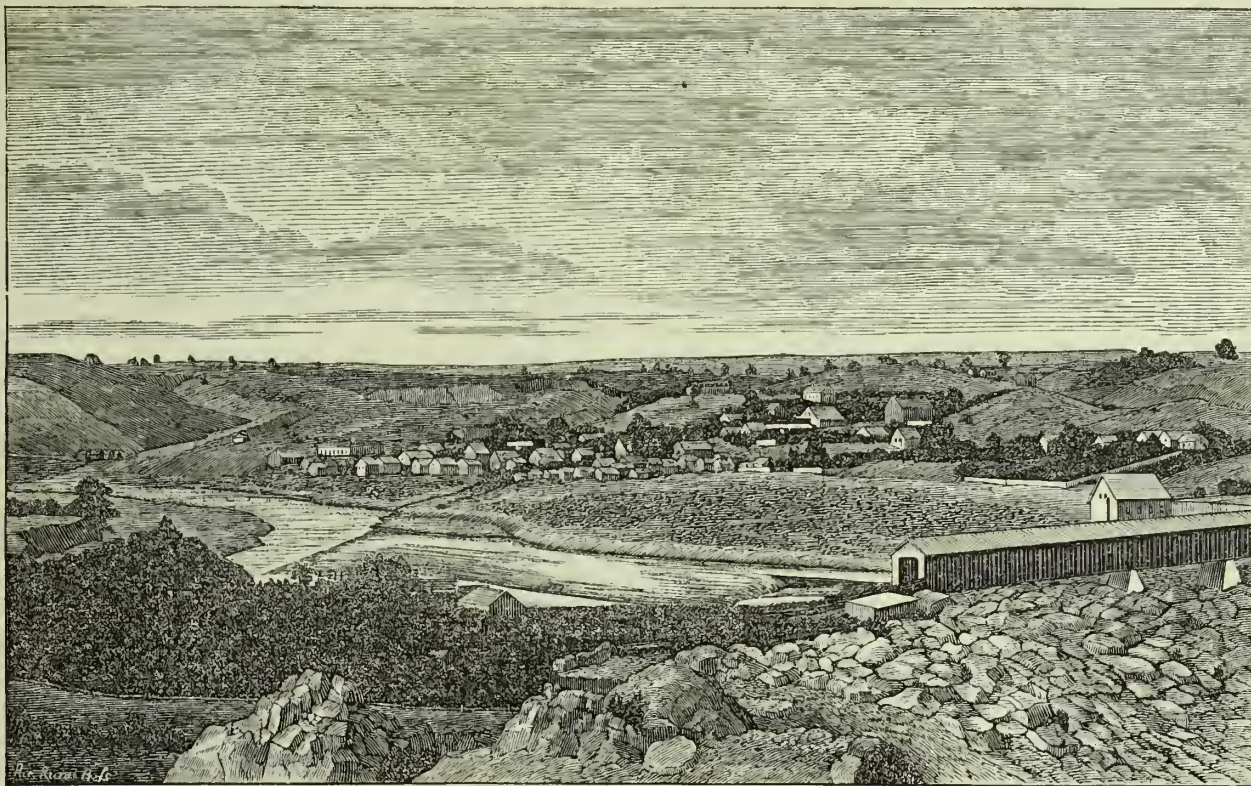
but not once during his brief visit was he conscious of the vast crowds of people who "saw him there," and who have since turned up in the most unexpected places—chiefly in the vicinity of the White House at Washington.

A "reliable reporter" says that Grant has been making inquiry about this renowned "ferry," and is satisfied there could be no better investment for presidential dollars, provided the rush of "pilgrim strangers" will still compare favorably with the multitude who "saw him there."

The announcement of this shrewd notion has been followed by an ardent wish on the part of the President to visit California and the good people of Knights Ferry, may crack this nut to suit themselves.

An amusing story of Grant's courtship was told by one of the Dent brothers, and in later years has been repeated with great relish by the ardent admirers of "Unconditional Surrender."

[Continued on page 212.]



TOWN OF KNIGHT'S FERRY, STANISLAUS COUNTY, CAL.

ty nearly "make itself" all the way from Stockton (36 miles) to Sonora, 27 miles beyond. Here also was a natural water-power where the river came fretting from its rocky cañons and broadened tranquilly between the sloping, sleepy foothills. If he had an eye for beauty he still chose wisely, for until smitten by the swift destruction of mining excitement there could hardly be found a lovelier nook. Here was "the forest primeval," and a river whose crystal clearness betrayed the whereabouts of glancing trout, and large, fat salmon. In all directions beneath the venerable oaks were

Indian Mounds,

ancient and grass-grown, or modern and still swarming with swarthy life; and no evidence was lacking to prove that this had long been a favorite rallying point for Indian tribes, where their harvest of acorns and fish was almost without limit.

Among these Indians was a living bundle of skin and bones, a breathing mummy of a squaw, whose age must have been about 140 years. There were other ancient and dried up samples of Digger longevity, who all declared that when they were youngsters, she was already the oldest of the old; and none who saw her could doubt this, or fail to get some startled notion of a possible "baboon origin."

were thenceforth, for some years, sole proprietors of the ferry, hotel, and pre-emption claim of land along the north bank of the river.

They also had a little store where another brother had supervision of a retail traffic with the Indians and officiated as postmaster, and "Justice of the Peace." This brother had arrived with his family in 1852; and his wife, Mrs. Geo. W. Dent, was the first white woman who lived at Knights Ferry and enjoyed the luxury of homesickness at the foot of the stony bluff that backs the town. Maj. Lane and family came also in one of those early years, and settled at "Mountain Brow," a few miles below the Ferry.

In later years he has been well-known to the traveling public as landlord of the principal hotel in town, and from first to last how many hearts of homeless strangers have been cheered by his kindly hospitality.

With the first company and team that ever made tracks on the direct route from Stockton to Knights Ferry, there was a Yankee machinist who had an appreciative eye for mill-sites, and a keen regret over the busy idleness of a fine water-power running to waste. He talked over the matter with Capt. Knight who strongly urged him to "stake out a claim" on the Stanislaus and put up a saw-mill then and there; offering also to "come down with the dust," that would be needed for the enterprise. Seeing no tangible "dust" the young man decided it would hardly be safe to test this generous promise, and on

MECHANICAL PROGRESS.

Water-Pressure Engines.

In mountainous regions, where water under a considerable head of pressure can be had, it may be advantageously utilized, for pumping, hoisting, or other mining operations requiring power, by means of hydraulic engines and surface or underground wheels. There are many places on the Pacific coast where these engines can be introduced with advantage. They are usually constructed for pumping only, and are single-acting, with long cylinders placed vertically over the pump-shaft, the pump-rod being simply a prolongation of the piston-rod. The water is admitted to the under side of the piston, and when it has run its upward stroke, the water is allowed to flow out, and the piston descends.

The absence of any sensible elasticity in water renders the motions resulting from its use under pressure in engines, susceptible of perfect control; but the same inelasticity causes sudden shocks and blows to the moving parts if the inlets and outlets be made as in engines operated by the elastic fluids, steam and air. It is therefore necessary to use valves of peculiar construction, by which the flow of the water may be gradually increased or slackened, and to provide other means for preventing impact and securing smoothness of action.

Many such engines have been constructed for pumping mines abroad, and have operated successfully for long periods, with very little expence or attention. One was erected by the engineer Trevethick at the Alport mines, in the year 1803, and worked continuously for forty-seven years, until 1850, when the work upon the mines ceased. In this engine, the water was admitted first on one face of the piston and then upon the other, alternately, and the inlets and outlets were opened and closed by two pistons at the side.

An engine erected by Mr. Darlington at these mines had a cylinder 50 inches in diameter and a stroke of 10 feet. The cylinder was placed directly over the shaft, and the piston and pump-rod were continuous. The column of water was 132 feet high, and gave a pressure upon the piston of about 8 pounds to the square inch, or more than 50 tons upon its area. Water was raised from a depth of 22 fathoms, by means of a plunger 42 inches in diameter, and, when the mine was very wet, nearly 5,000 gallons of water per minute were discharged into the adit. The water under pressure was admitted under the piston only; cylindrical valves admitted a full flow for seven-eighths of the stroke only, and then commenced closing, while a small valve opened and allowed enough water to pass in to complete the stroke.—*Blake on Mining Machinery.*

Management of Belts.

A leather belt in order to run smoothly, and with the best effect, should have but one laced joint; and in making this joint, the two ends should be cut at right angles with the sides. The holes will have less tendency to diminish the strength of the belt in the cross section if they are cut with an oval punch. The laces should not be crossed on the inside, and care must be taken to put them in evenly and of equal strength at the two edges of the belt.

In case rivets are employed, the heads should be left in on the inside surface of the belt so as to leave no obstructing points to come in contact with the pulley, the washers being placed on the outer surface. Waxed ends used in connecting beveled and lapped ends should also be carefully confined within the surface on the inside of the belt, as they will work mischief by wearing if allowed to project.

The more nearly an equal thickness and perfect straightness are secured in the belt throughout its whole length, the better it will perform its work. Dust, grease and lubricating oils should on no account be allowed to accumulate either on the belt or pulley. If the motion is to be very rapid, the belt should, if possible, be endless—that is, it should have none but permanent joints, and it is especially desirable that the density and dimensions should be uniform throughout, all unevenness of texture being carefully avoided. If properly treated, no appliance for the transmission of power possesses more valuable advantages than the belt—its simplicity, smoothness and facility of working being scarcely attainable by any other means; but it also

demands the most vigilant attention to maintain a good working condition and secure the greatest economy of power.—*Leffel's Mechanical News.*

Grinding Wheat Without Millstones.

At a recent meeting in Edinburg, of the British Association of Science, a paper was read by Mr. Thomas Carr, upon a new mill for grinding wheat. It is described as reducing wheat by percussion, while it is unsupported, and projected through the air. When the wheat passes through the machine, it is struck by a series of bars moving in opposite directions. These reduce the wheat so instantaneously to a state ready for bolting, that no injurious heat is caused, and consequently the flour is of much superior quality to that obtained by the usual way of grinding, and also at a much less cost. An Edinburg firm has one of these disintegrating flour mills in full operation, and the advantages in its favor over the millstones it supersedes, are pointed out in Mr. Carr's paper. It rarely needs repairing in comparison with other millstones; requires fewer men, and thus saves in wages; is free from loss by scorching, occupies less space, and requires less driving power; and in addition to all this, produces a superior quality of flour.

If people would use flour that is "bolted" less,—in other words, if more of the constituent parts of the grain were left, as God intended they should be,—there would be comparatively nothing heard of that fashionable complaint, "dyspepsia." But many housewives will continue to judge of the nutritious quality of their bread by its whiteness, which is a false criterion, and apothecaries will continue to fatten on this blunder.

NEW INDICATING INSTRUMENT.—A new instrument for indicating the velocity of flowing liquids, and for measuring the speed of ships, called the rhysimeter, has been invented in England, and has attracted much attention among scientific men. The instrument, as described, is in principle like the well-known anemometer, by which one is able to measure the speed of hot air, flame and smoke, contaminated with dust or corrosive vapors, as met with in furnace flues and factory chimneys. Both in the anemometer and rhysimeter the impact force of the current, and also its tendency to induce a current parallel with itself, are measured and made to become indicators of the force and velocity of the stream. A still more important application of the instrument, however, is that of measuring the speed of ships. The indicator may be in the captain's cabin. It resembles in size and appearance a barometer. In it a column of mercury indicates continually the speed of the ship. The full effect of the velocity is imparted to the mercury, without any appreciable loss by friction or otherwise, so that the indicators must always be absolutely correct. The instrument may be made self-registering, showing on a dial the total number of knots the ship has run, and marking on a piece of paper the precise speed attained at all periods of the voyage. The practical value of such an invention is obvious.—*Iron Age.*

A USEFUL ALLOY.—A metal composition which may be cast on steel and iron and which will adhere thereto, is much needed, since it is in practice an advantage to unite steel or iron with brass by casting; the difficulty of uniting by screws, bolts or pins being thus saved. In most cases, however, the inequality of the expansion produced in the two metals by change of temperature prevents their lasting union, and it rarely happens that the superficial union is sufficiently close to be permanent. The following composition closes firmly around iron and steel without any danger of becoming loose. It consists of 3 parts of tin, 37½ parts of copper, and 7½ parts of zinc. Since the last metal is partly converted into vapor at a high temperature, the above proportions may be slightly increased.

A wire brush for scratching scale from large round bars during the rolling is in use at the Griswold mill, Troy. The brush is fastened to the rest bar on the discharging side of the rolls, and the bar passing through the wire is effectually cleaned or freed from all scale by the time it gets the usual number of passes through the finishing grove. It is said that a brush of this kind, same as frequently used at foundries for cleaning castings, properly arranged behind the rolls, is better than the trough of cinders sometimes used in steel mills, and which is placed behind the rolls in same position.

SCIENTIFIC PROGRESS.

The Triumph of Science.

Recent reports from the East give full particulars of the prediction by the weather Signal Bureau, at Washington, of the two terrible cyclones which were developed off the Florida coast about the middle of August last. These predictions are considered as striking and important triumphs of science in the direction indicated.

It appears that the fearful cyclone which developed itself near Savannah, on the evening of the 20th of August, was detected and pre-announced at thirty-five minutes past 7 o'clock on the morning of the 17th as then existing "between the Bahamas and Georgia." The announcement from the office of the chief signal officer took place nearly three entire days before the tropic-born monster fell upon the Georgia coast in all its fury.

On the morning of the 18th the announced path of "the cyclone in Florida" was "to the north-west into Georgia, with easterly winds and rain," and later in the day this telegram was re-affirmed by the signal officer. On the 20th it was added at an early hour by telegraph, "The center of the cyclone will probably keep a short distance east of the immediate coast line, and be off Cape Hatteras to-morrow morning."

These storm warnings issued to all the harbors interested, between forty-eight and seventy-two hours in advance of the threatened hurricane, it seems by our latest reports, were verified by fatal punctuality. The correct predictions of the bureau saved a great many lives, and an immense amount of property. The damage by the storm in Savannah was estimated as not much less than \$100,000.

On the morning of the 24th a second cyclone, (the first had just died away,) was discovered and reported, which in forty-eight hours verified the predictions of the Signal Office in a fierce visitation of the South Atlantic coast. As predicted, its track lay "more to the west than that of the cyclone of the 18th inst." The full returns from Georgia and Tennessee show that it has been a serious and severe storm. Thus, in the space of a few days, we have had the strongest evidence of the wisdom and ability of our national storm signal system.

At the time of the occurrence of the above cyclones the West India and Panama cable had not been laid to the Islands of St. Lucia and Barbadoes, which are in the very center of the region where the cyclone was generated. Their wires are now in operation, and will on any similar future occasion greatly facilitate and hasten the making up of reports. Their further extension to Panama will still more increase the usefulness of the Bureau.

Magnetic Wells.

Much has lately been said about certain wells in Michigan, the waters of which are said to contain most extraordinary magnetic properties. The controversy as to the magnetism contained in the water is not yet settled. Professor Winchel gave it as his opinion before the American Scientific Association, at their meeting in Troy last year, that the water was not magnetic, but in his late report to the Legislature, as State Geologist, he so far modified his views as to be in doubt on the subject. Prof. R. C. Kedsie, of the State Agricultural College, at Lansing, asserted that the magnetism was only in the iron tubing, and instanced as a proof of this, a pipe which he had inserted in the ground to the depth of thirty feet, and which had become magnetic. This, however, is no new principle. Every school boy knows that any bar of iron, placed upright, will, after a time become magnetic.

That the water is strongly magnetic was shown where a wooden pipe, ten feet long, was placed between two lengths of iron pipe. The iron tubing, which the water

reached after passing through the wood, was as strongly charged as the first piece.

Whether the magnetism is derived from the pipe or its rocky bed, is a matter of dispute. Experiment proves that it is in the water. Knives held in the stream or rubbed upon the pipes become magnets. The time required to magnetize them varies greatly. Knives have been charged in two minutes. Sometimes, of five knives suspended in a bath tub over night, four will become strongly magnetic, while the fifth will be unaffected. If a compass be held near the running water, or near the pipe, the needle is deflected, more in the latter than in the former case.

Another curious property of the water is its coloring power. Superintendent Crew will show the visitor into a room in which stand goblets, glasses, bottles, tin-cups, salt-cellars, and the like, all under a shower of magnetic water. Five days suffice to color these in turn to a beautiful amber, seeming to saturate the glasses with pale gold. This is caused by the deposit of iron, and gives table ware a handsome appearance. Some cheap jewelry company, if alchemically inclined, might transmute the baser metals into gorgeous jewelry, and reap unbounded harvests on the principle of the "one almighty dollar." The color seems to be imperishable, and is beautiful as it is lasting.

The Brain of Insane Persons.

In a paper read before the late meeting of the British Association of Science, by Dr. T. B. Tuke, the doctor said:—It is generally acknowledged that the intellectual powers are manifested through the grey matter of the cerebrum, and as in insanity these faculties were impaired, exaggerated, or perverted, the author asserted a belief that, by examining the brains of the insane a hope existed of discovering a road for arriving at a solution of the functional difficulty. The time had passed when the term mental disease, insanity, or madness, conveyed to the minds of physicians, the idea that the mind or its faculties, were the entities which were the subject of disease. By a process of reasoning the pathologist had arrived at the conclusion that abnormal physical manifestations are dependent upon primary or secondary changes in the nerve tissue; that insanity is a *symptom* of disease, not a disease itself, and that the cause of the disease must be looked for in the brain. Six years ago the author commenced a systematic microscopic examination of the brains of the insane and with this most important result, that in every single instance a marked departure from healthy structure was observed. The process by which the brain matter was made fit for the microscope was related, also a list of twelve different parts of that organ which had in the majority of cases been examined.

After describing the various forms of disease, which were illustrated by diagrams and microscopic sections, the paper concluded with the following statements: We are not prepared to designate the individual part of the brain specially affected in the different forms of insanity; but we may say generally, that the *corpora striata* are the portions most frequently found affected, and that the cerebellum is the organ least frequently subjected to disease. Further, that the white matter is much more liable to evident structural morbid change than the cortical substance in comparatively recent cases, and that where the intellect has been in abeyance for prolonged periods, the structure of the grey matter of the cerebral convolutions is difficult of demonstration, the layers are found indistinct, as the cells are few in number and generally small in size. In the fifty-three cases of chronic insanity which we have examined, we have found distinct structural changes in the brain of each. This in itself is a fact having a most important bearing on the physiology of the brain, and one which, if followed up, may be reasonably expected to dissipate much of the mystery which hangs over the functions of its various parts.

SODIUM AS AN EXPLOSIVE.—Recent experiments by European scientists show, that in the explosion of sodium, the force exerted is by no means small, as may be inferred from the fact that if 46 grms. of sodium and 18 grms. of water be confined in just the space required for their bulk, the gasses generated by their contact will be equal to 450 atmospheres or 6,800 pounds to the square inch.

CORRESPONDENCE.

AGRICULTURAL FAIR IN DENVER, COLORADO.

EDITORS PRESS:—The Sixth Annual Fair of the Colorado Agricultural and Industrial Society was opened on the 9th ultimo. The grounds of the Society are situated about two miles from the city, and consist of 40 acres of land, forming a square, surrounded by a substantial granite wall eight feet high. The improvements consist of two Pavilions, stalls sufficient to accommodate 250 head of stock, and pens for sheep and swine. A grand stand was erected this year at a cost of \$4,500, two stories high; size, 225x34, and capable of seating 2,000 persons. The first story is divided into booths and dining rooms, and the second is provided with seats overlooking, from every part thereof, a half mile track; it is surmounted by a music stand.

This grand stand is pronounced by members of the press in attendance, as one of the most substantial and finest in the United States. The stairways are on the south side, giving all a perfect view of the entire track, with sufficient room between it and the track for parade of stock. The officers of the Society are Messrs. H. B. Bearce, President; Fred. A. Clifton, Secretary, and J. C. Anderson, Treasurer. The president of the society is one of the oldest settlers in the Territory, is extensively engaged in mining, and of late years in agriculture. To his energy and perseverance is mainly due the grand success of the present Fair. His home farm is one of the best cultivated in the Territory; and to him belongs the credit of producing the first grapes in large quantities, samples of which were on exhibition and took the first premium.

The Fair continued five days and was highly creditable throughout.

The Pavilion,

devoted to agricultural produce, presented a most surprising display for this portion of the "Great American Desert." Your reporter having for several years past been an annual visitor of the State Fair at Sacramento, and an old resident of the Golden State, naturally imbibed the idea from what is there exhibited, and so highly lauded by the press and exhibitors, that California had no rival on the continent, for vegetable productions; but am compelled to acknowledge, and at the same time make a bold and perhaps an incredible assertion to your readers, that Colorado with her irrigating system far surpasses California in their production, in size and yield. Several heads of cabbage are on exhibition averaging 50 pounds weight; onions of immense size were shown; sugar beets that beat in size and yield the productions of the far-famed fields of Alvarado—averaging 140 tons per acre! early Rose potatoes yielding 600 bushels to the acre—raised at an elevation of 9,000 [?] feet above the level of the sea, were among the vegetables exhibited. How is that for high? Notwithstanding the great elevation at which they were produced, they were neither "diminutive tubers nor sparse in the mundane elevation." Some of these spuds weigh six pounds apiece.

Among the vegetables on exhibition the most noticeable are egg plants, the largest weighing eight pounds; turnips, weighing eight and ten pounds; pumpkins, raised without irrigation, 150 pounds; a Spanish cucumber measuring 4 feet, 6 inches; and a jar of honey of Colorado production. The stalls were full of splendid stock. Mr. A. Wilson of Topeka, Kansas, exhibited 43 head of thoroughbreds.

Award of Premiums for Stock.

The premiums were arranged to give for each class on exhibition—stock belonging to the Territory, and that brought from other States—one each. Awards were made in this department as follows:

Best stallion, four years old, and over, first premium, "Yorkshire"—I. P. Van Wormer; second premium, "Melbourne," Samuel Ewing. Best mare, four years old and over, first premium, sorrel mare, "Bos-

ton Filly"—Andrew Wilson—no competition. Best brood mare, first premium, "Brown"—Andrew Wilson—no competition.

Best stallion, five years old, and over, first premium, "Bob Nelson"—Samuel Ewing; second, "George"—Goodhue & Alford. Best stallion, four years, and under five, first premium, "Frank"—J. Estlake, no competition. Best stallion, three years old, and under four, first premium, "Western Star"—L. A. Williams, no competition.

Four years and under.—First premium, Mountain Boy, entered by J. T. Younker. Three years and under four.—First premium, Buck, entered by Lester Drake. One year and under two.—First premium, George Yule.

Mares.—Brood mares. First Class—First premium, Andrew Wilson, Topeka, Kansas. Second class.—First premium, S. F. Younker. Mare five years old and over.—First premium, Andrew Wilson, Topeka, Kansas. Four years old and under five.—First premium, Andrew Wilson. Brood mare with colt.—First premium, J. Howlett. Brood mare. Third class.—Thomas Cross.

Mr. Wilson's Exhibit.

Among the best stock exhibited by Mr. Wilson are the following heifers and calves. Chief on the list comes Minister—calved September 23, 1863; bred by the late Robert A. Alexander, of Kentucky; sired by Lord Derby, 4,943, etc.; weighs 2,310 pounds. This famous animal has won the crack prizes at the State fairs of Kentucky, Ohio, and Illinois. He is certainly an animal of great beauty. Then comes Mountain—calved August 23, 1870; bred by E. G. Bradford, Paris, Kentucky. Next we have Alexander—roan; bred by E. G. Bradford, Paris, Kentucky. Redcliff—bred by Benjamin F. Redcliff, Paris, Kentucky. The above are all young and among the very best in the United States.

In the list of cows we will briefly mention a beautiful cherry-red five year-old, with a fine heifer calf by her side. We next have Emma Maxwell, two years old. We have never seen her equal. She has been on exhibition and has taken prizes in all the State fairs from Kentucky west to Colorado. Miss Inslow—a red, two-year-old heifer; very fine. Grace Young, the 4th—a choico creature, one year old. Meadow Lark—sired by Minister; one year old the 24th day of August. Grace Young the 5th and Emma Maxwell the 4th, were great beauties. There were besides ten beautiful heifers and calves that could hardly be surpassed anywhere. Of bull calves, Montgomery a red roan, bred by Edward G. Bradford, and Barclay, besides eight or ten more, which taken together, or singly, are certainly an extraordinary lot.

The same party has likewise six horses, and a lot of Chester White and Berkshire pigs, which are hard to beat. One four-year-old sorrel mare, Boston Filly, was awarded the first premium. Also best brood mare, Brown, first premium; both to Andrew Wilson.

There was a large display of agricultural implements, for which the following awards were made:—

Agricultural Implements.—Grain drill and seed sower combined—First premium, George Tritch. Plow for all work. First premium, George Tritch. Mowing Machines—First premium, Champion, No. 2; second premium, W. A. Wood, prize mower, for combined machine, W. J. Kinsey. Mower with swather—First premium, Kirby, J. Malony. Farm harrow—First premium, Monroe rotary harrow, W. J. Kinsey. Corn cultivator—First premium, Nishwitz harrow, John Malony. Straw and fodder cutter—First premium, William Myers. Root cutter—First premium, George Tritch. Horse rake—First premium, Perkins' sulky rake, Lee & McMullen. Best display of farming implements, First premium, George Tritch. Ox yoke, First premium, John Malony; second, George Tritch. Dairy churn—First premium, F. M. Summers. Farm pump—First premium, Eureka pump, Henry Knight. Wheelbarrow—First premium, John Malony; second, John Malony. Portable fence—First premium, Godfrey & Hannah.

Of the minerals on exhibition of which there was a very large display, together with other matters, I will give an account in my next.

ALAMEDA.

The largest works in the world for manufacturing paper from wood pulp are said to be in Philadelphia. The buildings occupy a space of 1,000 feet in length and 350 feet in width, and cost \$600,000.

THE HORSE.

PERCHERON-NORMAN HORSE.

Conditions Under Which They are Bred.

[Written for the Press.]

Almost everything that has been written about this horse may be reduced pretty much to this—that there does not exist another breed of horses, which unites in such an elevated degree, high moral and physical qualities. The proof of this statement is easy—a hasty sketch of the principal characters of the breed suffices to furnish it:

To no ordinary strength, to vigor which does not degenerate, and to a conformation which does not exclude elegance, the Percheron horse joins docility, mildness, patience, honesty, great kindness, excellent health, and a hardy, elastic temperament.

Its movements are quick, spirited, and light. It exhibits great endurance, both when hard-worked and when forced to maintain for a long time any of its natural gaits, and it possesses the inestimable quality of moving fast with heavy loads. It is particularly valuable for its astonishing precocity, and produces by its work, as a two-year-old, more than the cost of its feed and keep. Indeed it loves, and shows a real aptness for labor, which is the lot of all. It knows neither the whims of bad humor, nor nervous excitement. It bears for man, the companion of its labors, an innate confidence, and expresses to him a gentle familiarity, the fruit of an education for many generations in the midst of his family. Women and children from whose hands it is fed, can approach it without fear.

We know (says DuHuys) how the sexes are divided in Perche; one section of the province produces, while another raises what the other has produced. No matter what may be the class to which she belongs, light or heavy, or partaking of both, the mare is expected to breed every year. If barren, she is sold, and this fault continuing she passes into public use. During her gestation she works constantly. A few days of rest, before and after foaling, is the only time lost. The remainder of the time her work pays abundantly for her keep and the interest on her cost. At the age of five or six months, the colt is abruptly weaned and sold. Its price varies from five to six hundred francs—sometimes more; but this is the exception, and so far it has cost nothing.

Led into the interior upon the fertile meadows of Mauves, Pin, Regmalard, Carbon, Louigny, Reveillon, Courgeron, Saint Langis, etc., it remains one year unproductive. In winter it is fed upon hay, in the stable, and during the fine season is turned into the fields to graze. To sum up, it is rather poorly nourished on bran, grass, and hay. The reason is, it is as yet unproductive to its master, and it feels the effects. Wait a little; its hardest time has gone by, and work will soon soften its lot.

Working the Colts.

It reaches, in this manner, the age of 15 or 18 months. What has it cost for keeping? Very little. Estimate, about 80 or 100 francs. At this age it is put to work. Naturally docile and in the hands of a man always patient and mild, its training is generally easy. Assigned to farm labor, it plows, or draws a wagon. Harnessed with four or five colts of its own age, together they pull what would be an easy load for two good horses. Put before two oxen, or joined to three of its companions, it plows and is never overworked. Now, it is better fed, and taken a great deal better care of. Its morale improves, and its master seems to delight in contemplating the progress and the development of its qualities. Thus in traveling through Perche, one involuntarily stops in the midst of the fields to see it work, never tired of admiring the vigor it displays, and the gentleness with which it is treated.

At the age of three the Beauce farmer buys it to work his soft and light soil. For him, it must be preserved intact, its development uninjured, nay encouraged. Master, servants, large and small, all deeply imbued with the love of the horse, unite in this work with admirable skill. It has thus worked during one year, abundantly fed, but receiving little or no grain. Doing enough light work to pay for its keep, the master has received, besides its manure, a heavy interest on the cost, as we will presently see. This premature work, which would have been injurious under a careless management, is, on the contrary, beneficial when it is in the hands of a good master. This is so much the general case, that the

contrary is the exception. The animal grows and becomes better developed in size and strength. Now, as we before observed, the Beauce farmer comes to buy. He lives in a country of proverbial richness. The work there is abundant, but the nature of the soil renders it extremely easy. The fields, very much divided, and distant one from another, makes a rapid gait indispensable.

In Beauce, the horse cannot be replaced as a beast of burden; the ox cannot be his competitor. But it is a fact of the greatest importance to state, that it is to the ox that the Percheron horse owes a part of his celebrity. As is well-known, Beauce is the exceptional country for cereals; the horse and sheep are pretty much the only animals which there produce a manure required by such husbandry. And to this, the breadth of land under tillage, and the extreme fertility of the soil, the large number of horses kept by the Beauce farmer will be accounted for.

At Three Years Old,

the Percheron dealer sells his horse for 900 to 1,000 francs, and sometimes more, according to his merit. But he does this only in order to buy other colts; and the profit has been, in fact, sufficiently large to warrant him in this. He has had against him only the chances of mortality. These are small; the race is tough and hardy. Accidents are more to be dreaded, and these sometimes occur. Living in the open air, in the company of other animals, the young colt is a little exposed to the influences of chance. But the fields are enclosed, the master's eye is upon it, and, to sum up all, the large profit covers everything.

Reaching Beauce at three years old, he is subjected to hard work. The work is easy enough, but there is much of it. He must be quick, the breadth of land very extensive, and the work must be done. Sowing and harvesting—these two words sum up the Beauceron agriculture. Otherwise expressed, plowing and hauling. As regards the horse, all must be done promptly and quickly. But if he is hard-worked, on the other hand, nothing is denied him. He eats as much grain and hay as he pleases.

What difference does this make to the farmers? Do not his labor and his manure pay for his nourishment? And, moreover, how act otherwise? As we have seen, nothing can supply his place. Necessity has no law. He lives in this way a year, with abundant food. Sometimes he succumbs; the mortality is quite large in this region. But the stock which remains after such training offers many guarantees to the dealer who buys it, to transfer, if they suit, to the express and omnibus companies; or if they belong to the draft race, to the contractors, wagoners, and builders of Paris.

At Five Years Old,

he is bought by the horse-dealers, at the annual horse fair on St. Andrew's Day, in the town of Chartres. There he is delivered, the farmer leading his horse upon the ground. The prices vary from 1,000 to 1,400 francs. The profit is small, sometimes nothing, the greatest gain being his work, which cannot be dispensed with. The feeble have perished; the survivors owe their lives only to their robust constitutions.

Before dedication to his final use, he has thus passed through four hands; all these have shared the risk of his rearing. The most serious have been for the last owner; but he was also the wealthiest, and to him also has he been the most useful. Thus, we see, the foal costs almost nothing, and his work pays for his keep. Perfectly well fed, and exercised from his tenderest age, the Percheron has always been the first draft-horse in the world.

I will now close this subject by giving one or two recorded instances of remarkable endurance, and speed of the Percheron horse: Two and a half miles—65 results. The best two are those of Sarah at Langon, in 1865; time 7 minutes, 35 seconds; and of the same at Morlagne, in 1865; time 7 minutes and 40 seconds.

A gray mare, 7 years old, belonging to M. Consturier, of Fleury-sur-Audelle, (Eure,) in 1864, harnessed to a tilbury, traveled 58 miles and back on two consecutive days, going on a trot and without being touched with the whip. This was over the road from Lyons-la-Forêt to Point Audemer, and back, a difficult and hilly way. The following time was made: The first day the distance was trotted in four hours, one minute, and 35 seconds; the second day, in 4 hours, 1 minute and 30 seconds. The 13½ last miles were made in one hour, although at about the 41st mile the mare was obliged to pass her stable to finish the distance. A. W.

[Continued from page 209.]

"Sister Julia," said he, "had two beaux, one she called 'Pudding' and the other she called 'Pie.' 'Pudding' was so very plain that she liked 'Pie' vastly better and gave him all sorts of smiling encouragement, but the dapper young clerk was only flirting for fun and she waited in vain for proposals. Finally, she lost faith in 'Pie' and astonished her friends by accepting the plain substantial 'Pudding.'"

Doubtless she has found ample verification of the old adage—"The proof of the pudding" etc. etc.

Mining.

Until 1854 and 1855 the "pay dirt" of this vicinity had attracted no general attention. Indians had panned out considerable quantities of gold and a few cradles were rocked on the river-bank. But now began the Ditch mania with Parson's Ditch, that led from the mill-dam along the south bank of the river; Thompson's "Dry Ditch" that yawned for the tardy waters of Littlejohn Creek; and finally the great San Joaquin Ditch that tapped the Stanislaus six miles above the Ferry, and so came broad and deep along the hill-sides or through great flumes that clung to the walls of cliff and rocky cañon. This enterprise was pushed by a stock company with the names of Calloway, Short and Bishop, prominent as superintendents.

As in many costly mining schemes, the projectors were unable to finish the work, and in 1856 Mr. A. Schell of Stockton invested such capital and energy as brought it to completion and also brought him to Knights Ferry as a permanent citizen, where he has ever since been one of the leading spirits in all public affairs and interests of town and county.

With the plentiful rush of water came hundreds of miners to the little town, and its swift, cheap growth betrayed "flush times" and the usual excitement of mining life. Hills and valleys were torn "inside out" and sent whirling into the Stanislaus that now between broken banks rolled slyly like a vast stir-about of muddy mush.

Buena Vista and its forest of grand old oaks must also come out by the roots, and so much water would be needed that another great ditch for that side of the river was started by Kappelman & Co.—finally finished by San Francisco capital, and is now owned by the Pentland Bros. Ditch property hereabout cost about a quarter of a million, with continued heavy expense for repair of damages from floods etc.

Big strikes and sudden fortunes were never made here, but if it were possible to compute the whole amount of gold gathered, it would, doubtless, make a fine figure.

For the last ten years the mining interest has steadily diminished—is nearly forsaken by white men and hardly kept lively by the "Heathen Chinee." Mr. McSorley, a veteran miner and pioneer of the town, still toils among the rocks of Goat Hill and deserves mention for the constancy with which he has pinned his faith to Knights Ferry.

In 1857, the town and region round about suffered from an affliction sadly familiar to Californians, and many persons and homes were left desolate in the grasp of a Spanish land grant.

Again the prosperity of the town was seriously checked by the

Great Flood of '61-'62,

that swept nearly every building from the business part of Main street and lower side of the Plaza, carried away the flour mill, the bridges of Locke & Co., and left a scene of gloom and desolation impossible to describe. Much "portable property" might have been saved; but these modern antediluvians had no faith in a Deluge and while they scoffed at the notion, away went houses, tools, furniture, dry goods, and things too numerous to mention.

Many found perilous excitement in trying to catch and secure a portion of the immense quantity of "drift" that went floating by. One poor man ventured too far and also drifted away where no human eye could follow.

The tremendous loss of property was followed by a considerable loss of citizens who became discouraged and sought safer anchorage for household gods.

But California pluck asserted itself as usual and signs of the wreck soon disappeared. The bridge was replaced by a strong and handsome structure that is believed to be flood-proof. The mill was rebuilt of stone by D. W. Tulloch—is still in active operation and doing a large business.

Main street grew up again with shops, stores and dwellings that were partially overflowed and considerably damaged by another flood in the winter of '67-'68. Min-

ing operations have tended to fill up the river bed and increase the dangers of overflow.

Two newspapers had been published heretofore, the *Knights Ferry Bee*; followed by the *Stanislaus Index*, and this latter did not long survive the flood. The town has twice suffered

Trial by Fire.

In the summer of '64 several buildings were burned, and notably the old Hotel where stages had stopped ever since "early times." A second fire occurred last August and destroyed seven buildings on the lower side of Main street, viz.: Palmer & Montlton's store; Buddington's saloon; P. Englehart's blacksmith shop; Vogt's shoe shop; A. P. Bartlett's harness and saddle shop; Gardner & McLean's hay barn, with 60 tons of hay, and Kline & Tremayne's butcher shop. New buildings were soon erected and the appearance considerably improved.

But the town suffers further loss since this fire in the departure of Henry Palmer, a tried and true citizen, who has been for fifteen years widely known and respected as merchant, express agent, etc. There now remain but a few of the prominent

Pioneer Business Men

of the town and vicinity. C. S. S. Hill at the old familiar store on Main street; James Allen of the early firm of Palmer & Allen, but now of Allen & Clark; Isaac Dakin still at the head of a large wheelwright and blacksmith business; Samuel Dingley, well known to the traveling public; D. Parker, blacksmith; W. E. Stewart, one of the first to engage in fruit culture and still famous for raising the best and earliest peaches in the country.

All these and many others who came at a later date, belong to that desirable class who settled at once to the duties of permanent citizenship.

Churches and Schools.

Religious service was of rare occurrence in early days, and was first held in the primitive bar-room; next in the unfinished flour mill of Locke & Dent. Then a worthy itinerant rigged a rough room in one end of a stable and set up his household gods—the fry-pan and battered dough-dish. Here he kept "bachelor's hall," taught the half dozen children on week days and preached on the Sabbath. A slight board partition separated the congregation from a long line of mules, whose response to hymn and prayer was noisy and emphatic.

In 1856 the Rev. James Bishop took charge of church affairs, preaching in the kitchen of S. Bishop, in the shop of McLaughlin & Dakin, and finally organized a Methodist society that met for regular service in the town hall, which was used several years for school purposes. The court room became in turn the scene of public worship, then Armory Hall, which was finally purchased and fitted up for a church, but went to wreck in the flood of '68, and a neat small church has since been built in a safer location.

Those who are familiar with this sketch will recall the unselfish devotion of Father Bishop to the interests of Church and Sabbath School, and though his kindly face is no longer seen at Knights Ferry, his good works and words will not soon be forgotten.

Within the past year two good school-houses have been built in town; one for the public school of forty scholars, the other for the private school of Mrs. Stakes—twenty scholars.

Buena Vista District has also its neat, new schoolhouse and from thirty to forty scholars.

In 1861 an effort was made to procure a library for the use of schools, and the people responded so generously that a change of plan was made in favor of a

Public Library.

This now contains nine hundred well-selected volumes kept in the office of Schell & Hewell, where may also be found one of the best private law libraries outside of San Francisco.

The existence of this excellent public library is but one among many proofs that the women of Knights Ferry have quietly demonstrated their line of "rights."

In charities, that begin and end at home, and in many enterprises of broader scope, they have shown a capacity for zealous and harmonious co-operation that insures desired results and has never known a failure.

Long may these shining lights be spared to brighten happy well-ordered homes.

Fruit Culture.

With ample irrigation nearly all known varieties of fruit may be easily grown, and

special attention is now being given to the cultivation of desirable foreign varieties of grapes, that are found to mature here at least two weeks earlier than in any other part of the State.

Large vineyards of home and foreign varieties are owned by Pentland Bros.—Stemm & Gerkins and J. Sluke. The Red Mountain vineyard of Schell, Krauso & Co. has a well established reputation for excellence of wine and brandy, and promises to yield this year thirty thousand gallons of wine. The products of this vineyard received special praise from the Senate Committee on "grape culture and production of wines and brandies"—(1871) and the method of manufacture pursued here is given in their report.

Business Summary, etc.

Knights Ferry formerly belonged to San Joaquin county, was annexed to Stanislaus in 1860, and since 1862 has been the County Seat. The large brick building erected in 1858 by Wm. A. Fisher, was purchased by the county, and now contains the court room, offices and jail—also the Knights Ferry Hotel, kept by Bishop and Gardiner. The Washington Hotel on Main street, is kept by F. S. Barnes.

Of law firms there are (A.) Schell & Hewell—(G. W.) Schell and Scrivener and T. A. Caldwell.

Doctor James Lowe, and Dr. Marks, who has charge of a county hospital recently established.

MERCHANTS, Hill & Warner Bros.; Allen & Clarke; J. Haslach & Co.; Moulton & Valpey; these last are also agents for Wells, Fargo & Co.

Wheelwrights and Blacksmiths, I. Dakin; J. L. Connor and P. Englehart.

Saddle and Harness Maker, A. T. Bartlett.

Carpenters, E. T. Stone, D. Gillis.

Boots and shoes, K. Vogt, G. Gngle.

Livery stables, Gardiner & McLean, L. Voyle.

Saloons, H. K. Covert, J. D. Buddington, and E. J. and J. Lodtman who also own a brewery.

Toy and fruit store, James Simpson.

At the upper end of Main street is the fine large flour mill of D. W. Tulloch with its four run of stone, busy day and night.

On the upper side of the Plaza a neat Masonic hall has been recently built. In the lower story of which is the apothecary shop of T. M. Lane.

The hotel of S. Dingley, blacksmith shop of D. Parker, harness shop of Mr. Foster, and store of Randall & Stewart, are in Buena Vista. On both sides of the river are pleasant cottages with home-like surroundings; and remembering these, no faithful historian can forget the generous hearts and ready hands that have helped to establish whatever is "lovely and of good report" in this community.

The business of the town shares in the general depression resulting from the drought. The grain crop in the southwestern part of the county is a total loss. A belt of country about fifteen miles wide skirting the foothills yields a fair crop. Threlfall & Bros. have a wheat field of 8,000 acres near the town, and on Dry Creek another of 3,000. They get about half a crop.

The business of wool-raising assumes considerable importance in the county, and here largely engaged in it are Dingley & Ensler, T. P. Cary, and William Bach. A woolen factory is talked of, and the still abundant water-power suggests a promising future for the town.

One more backward glance through those eventful years reveals many a dark blot of tragedy, pitiful or criminal. Accident and crime have made their fearful record—but there is no need to recall it. Let it rather fall silently away among the shadows of the Past, while the town in its twenty-second year turns a new leaf and writes a fresh, fair page.

SALMON THINNING OUT.—It is said that the supply of salmon in the Sacramento is perceptibly diminishing. In past years fishing-boats would bring in as the result of a day's labor from a score to a hundred fish, but now from eight to a dozen is the limit; that the fish caught are principally females, filled with spawn, on their way to headwaters to deposit their eggs. Why should not the protection of the law be accorded to the salmon as well as to trout and mallard ducks? From June to November, at least, it should be prohibited to capture salmon fishy else soon these prized and nourishing finny invaders in California's greatest river will disappear. What representative of a river county will first move in this matter of growing importance—the preservation of internal fishery interests?

NOTES OF TRAVEL IN SANTA CRUZ CO.

BY OUR TRAVELING CORRESPONDENT.

This county is full of interesting data for the correspondent; no trouble to find plenty to write about; the only trouble is, what to miss mentioning. Its abundant crops of cereals, and its manufacturing interests are not the only attractions.

Soquel.

This quiet little village of about 100 souls is situated 4 miles south of Santa Cruz, and at about one-half mile from the bay of Monterey; at this latter point, there is a fine wharf and warehouse to correspond with its requirements. Just below this landing is one of the finest *bathing beaches* on this coast, considered so for its pure white sand, its freedom from fogs and wind, and the absence of undertow to the surf. Some 500 families have visited this point of Monterey bay the present season, staying from 4 to 30 days each. I will state that all come prepared to camp out, although all the little necessities are obtainable in the vicinity. Soquel is noted for more children than any town of its size in the State, requiring three first-class school teachers to instruct its rising generation and strangs to say all its *business* men are bachelors.

Soquel River Lumber Co.

This company run a steam mill, and regularly employ 40 men, in getting out and manufacturing lumber, of which they turn out 475,000 feet per month.

The Grist and Lumber Mills

of E. B. Porter, of this place, are run by steam—40 horse power engine. The former has 3 run of burrs with a capacity of 40 barrels of flour per day; and the latter is capable of turning out about 7,000 feet of lumber per diem.

Porter's Tannery.

This manufactory is the property of Geo. & Benj. F. Porter, and is situated about 1½ miles south of Soquel. It has a capacity equal to the largest at Santa Cruz, and 20 men are regularly employed. A very respectable little hotel at this place is presided over by A. Maun. Its principal merchants are D. J. Cumming, and E. Porter. Some 16 miles further south (and down the coast) is situated the beautiful town of

Watsonville.

located near the center of Pajaro Valley, and about 4 miles from the bay aforementioned. It contains about 2,000 inhabitants and has the look of the most prosperous town in the interior of the State. I will mention a few of its late improvements: Its streets run at the dividing quarters of the compass, and in the center of the village a fine plaza, occupying an entire block, has lately been ornamented to the extent, that it has improved the town 100 per cent.

Railroad.

The Watsonville branch of the S. P. R. R. which starts at Hollister, a few miles from Gilroy, it is expected will be completed to Pajaro, one mile from Watsonville, by the 15th inst. The distance between the two points will be 25 miles. A depot is nearly completed, and the farmers are already storing their grain in the unfinished building, at this place, (Watsonville). In the meantime the citizens are blessed with cheap fares. The Peoples Line of Stages have caused the fares to drop from \$2 and \$4 to 50 cents, in any direction as far as Gilroy, San Juan, Monterey, or Santa Cruz. Dan. Porter is the superintendent of this enterprise.

Odd Fellows' Hall.

One of the finest finished frame halls in this section of the country was completed about one year ago; it is owned by J. D. Ordish. This building is 24x80 feet, two stories high, and cost \$8,000 to erect. The finish inside, especially the frescoing by Messrs Sharp & Van Wagner of Santa Cruz is as fine as I have ever seen in the State, with an experience of having visited 160 Lodge rooms.

Skating Rink.

This building adjoining the Plaza, completed some few months since is 44 feet front, by 150 feet back; the skating floor is 44 by 118 feet, and cost \$4,500 to erect, and like all others of its kind in this State, is a paying institution; for three nights per week 75 skaters are in attendance.

Hotel Facilities.

At present but one hotel of any impor-

tance is running here, furnishing both board and lodging. The Washington, kept by Mrs. Murray as the Pacific Exchange is undergoing repairs and rebuilding with large additions. Nothing but lodging is obtainable there. So the particular kind, *bon tons*, find themselves well pleased with Charley's Oyster and Chop House; R. C. Wornes is the proprietor.

New Hotel.

This building is being erected on the site of the Old Pacific Exchange, corner of 3d and Main streets. The old building has been moved back, forming an L in the rear; the new building forms an L in front and thus furnishes a hollow square or court inside. The new addition is 90 feet, fronting on 3 street, by 80 feet on Main, but including the old building it is 120x80, 3 stories high. It is expected to be furnished by November 1st and will comfortably accommodate 100 persons. It is of modern architecture, with Mansard roof. A. Chalmers is the architect; Sharp & Van Wagner are the plasterers and frescoers; J. H. O'Brien of San Francisco is the plumber. In anticipation of gas works to be put up here, this hotel is being fitted throughout with gas fixtures. T. D. Alexander, the proprietor of the above named building, has also erected a fine livery stable adjoining, with corresponding proportions to the hotel, and can accommodate 60 head of horses. These two buildings in connection, will not cost less than \$20,000 when completed.

It might interest a few persons, at least in this section, to know who Howard & Co. are. Their names are to be found at every turn in the road, and like "S. T. 1860 X," on every prominent tree and rock in this section. To answer the question—they deal in gent's furnishing goods, etc., in Watsonville. Owing to the extensive land transactions of late in this section an enterprising gentleman, Mr. J. W. Sweeny, has set up an office for the sale and rental of lands. Mr. S. is a gentleman thoroughly posted upon real estate matters and perfectly reliable. One little transaction of real estate, took place a day or two since that is worth mentioning. Sargent & Hildebrand purchased 100 acres of a tract, one mile from Watsonville, for which they paid cash, \$150 per acre.

Pork Packing Establishment.

Two miles east of Watsonville, Messrs. A. Lewis & Co. have an extensive establishment of the above description, where they slaughtered 2,000 hogs last year. Some 10 men find regular employment at these works; 5 cents per pound is paid for hogs on foot, and hams, bacon and lard sells for 15 cents per pound at this institution. The same firm manufacture about 400 boxes of soap per week; this department has just been started.

Saw and Grist Mills.

Brown, Williams & Co.'s sawmills are situated some 7 miles north of Watsonville, and have a capacity of, and do make, about 4,000,000 feet of lumber annually, the price of which is \$12.50 per M. at the mills or \$16 at the yard in Watsonville.

Corillitos Grist Mill,

situated 6 miles North of Watsonville, is the property of Ford & Sanborn; 3 run of burrs; capacity 50 barrels per day. Turbine water wheel, the power.

The Watsonville Flouring Mills,

Chas. L. Thomas, proprietor, are run by a steam engine of 40-horse power, has 3 run of burrs, two for wheat and one for feed. They have a capacity of 55 barrels in 12 hours; 5 men are employed. Flour first quality is worth here at this time \$8 per barrel, and \$2.25 is being paid for wheat.

Brewery.

C. Palmtag, proprietor of the above institution, manufactures 1,300 barrels of beer annually, and gives employment to 3 men.

Williams' Cocoonery.

Jesse Williams, Esq., is the pioneer silk grower of this county; he owns 160 acres of fineland, situated midway between Santa Cruz, and Watsonville, and about 1½ miles east of the stage road. He has about 4 acres of fine looking and thrifty mulberry trees, (about 10,000 in number); has been engaged in the business here about 3 years, and last year raised 50,000 cocoons, he states that he has had no backsets by anything, except the sale of them; he has now on hand over 50 lbs cocoons; who wants to buy?

Tobacco.

The first tobacco ever grown in this state, I believe, was in the year 1857, in Napa county, raised by Joseph Pelissier, a pioneer of this coast in 1845, who now resides in Watsonville.

Improvements and Patents.

I was attracted the other day in passing

the ranch of M. O. Swarthout, Esq., near here, by a very peculiar gate; the gate itself simply slides back and forward to close; but the propelling power is by a crank, so arranged as to be manipulated while on horseback, or in a wagon. Even the latch is raised by the ropes and pulleys thereunto connected. Vestal & Foster, of Santa Cruz, are the inventors of a very fine contrivance, called the Improved Adjustable Axle Gauge, for blacksmiths and wagon makers; it proves a perfect gauge from any side applied.

Gas Light.

A. T. Melvin, resident of Santa Cruz, is the agent for this county, of a new gas light, that from the number in use in this section, must be of considerable merit. G. A. Trafton is the agent at Watsonville.

Flax.

John Dunlap, a few miles north of Watsonville, this year, raised 80 acres of flax seed that averaged 2,016 lbs. per acre.

Wheat.

R. Pinto in this vicinity, raised 14½ acres of wheat this year, that threshed 800 centals, or about 92½ bushels per acre. More from the same place next week.

L. P. Mc.

AGRICULTURAL NOTES.

CALIFORNIA.

GOOD YIELD.—Mr. Wallace, of Willow creek, informs the Yreka Union, that his wheat crop yielded this year 54 bushels to the acre. The Union thinks this yield cannot be beaten by any county in the State.

WINE MAKING.—Mr. Lowell has commenced making wine from the grapes of the Calistoga vineyard. He will manufacture port, claret, and white wines, and expects to turn out about 15,000 gallons. Mr. Lowell has a thorough knowledge of the business, and has taken every precaution in the way of preparing proper containers, etc., to produce first-class wines.

GRAIN FROM HEALDSBURG.—The amount of grain shipped this season from the Healdsburg station is 665 tons, and there are 1,500 tons now stored in Bloom's warehouse.

Messrs. Stratton & Allen are at present engaged in reclaiming New York Island, immediately in front of Black Diamond Landing.

A large grain warehouse is just being finished at Mark West Station, which already contains 1,200 tons.

COLONY FARMING.—A number of Vallejo citizens, says the Chronicle, comprising such men as Calvin Brown, Messrs. Soper, Armstrong, Adams, Mallet and others, entered into an arrangement some time ago to make a purchase of a tract of land—some 5,000 acres or more—upon which to establish a colony. They have had agents in the field looking out a suitable location, and have received favorable reports from Shasta county. The scheme is to divide the land up into forty-acre lots, found a town upon the plan of Vineland, N. J., and Greeley, Colorado, where no liquors shall be sold, and through a community of interest establish a model colony.

THE GRAPE CROP IN NEVADA.—The Gazette says the yield of grapes in Nevada county, this year, is very large and fine. The markets are filled with the choicest qualities at reasonable prices—the finer foreign varieties were never so plentiful and so cheap. It has been found more profitable to cultivate these for the table, while the use of certain sorts in the vintage is multiplying the number of characteristic wines of distinct quality. Although the grape yield is much larger this year than ever before, by reason of the large number of vines in bearing and the excellency of the season, market prices are well maintained, there being a large demand for the surplus to make into wine.

CORN IN MERCED.—The Snelling Argus says:—We have in our office several ears and stalks of corn, raised this season, on the farm of John A. Robinson, adjoining this town, that are far ahead of any that we have before seen produced in this State. The corn is the second crop of this season, having been planted upon land from which a crop of grain-hay had been cut which yielded a ton and a half per acre. The corn was planted in June and July, and will yield a crop of from fifty to sixty bushels per acre. This crop proves the benefits of irrigation, and ought to induce all landholders to encourage the construction of irrigating ditches throughout the valley as the best means of building up and improving the country. Mr. Robinson is a model farmer, and is making his

little farm of two hundred acres yield vast quantities of produce.

EXTENSIVE FARMING.—The same paper says:—From all portions of our country we hear of extensive preparations being made for farming. Many new farmers are coming into the county, who are making preparations to pitch large crops as soon as the rains begin to fall. The old farmers are plowing and sowing their seed in the dust, and the general impression is that the average this year in the county will be doubled, and in some sections trebled. One farmer, just came into the county from Napa, has made a purchase of thirty tons of wheat for seed, to be planted on the Sheehy & Carroll tract, between Bear Creek and the Mariposa. All feel confident of a wet winter, and large crops at the next harvest.

CATTLE DISEASE—THE MAD ITCH.—The Santa Cruz Sentinel of the 30th ult. says:

During the past week a strange and mysterious disease has prevailed among the cattle of Mr. Joseph Ruffner, whose farm is located about one mile west of Santa Cruz. The disease is known as the "mad itch," and already five fine cows have died with it, after a few hours of intense suffering. Dr. C. L. Anderson made a *post mortem* examination of two cases, and found the brain much inflamed and blood-shot, otherwise no signs of disease were indicated. It is supposed that feeding the cattle and hogs in the same enclosure may have caused the disease, at least it is so published in the books on stock raising, published in England many years ago, and the rule may hold good, even at this day, on the Pacific coast. The farmers of this county should be careful not to allow the disease to spread.

The Signal claims that San Buenaventura has the largest pear, palm, walnut, and olive trees in the United States. Three date palms from seven to nine feet in circumference, and from 40 to 50 feet high. Pear trees eight feet in circumference, and olives seven. Three English walnut trees, the largest six feet in circumference, about 30 feet in height, and a spread of top of 60 feet.

AGRICULTURAL HOMES.—The Los Angeles Star of the 28th ult. says that a number of families, with their little ones and their household goods, passed through the city yesterday afternoon on their way to the fertile lands in the eastern part of this county, there to build up homes for themselves and their posterity. May God speed them.

WINE MAKING has commenced in earnest in Anaheim, and it is generally conceded now that the injury done to the vineyards by grasshoppers has been much overrated. But a few localities have suffered, and the yield of wine is considerably above the average. The winemakers generally, throughout the State are as busy as bees.

OREGON.

The Walla Walla Union claims the 'belt' for the Walla Walla Valley as a wheat growing country. Its figures are, one field of 50 acres, yielding 64 bushels to the acre; and another of 80 acres, with an average of 46 bushels.

The wheat crop in Marion county is estimated at 20 bushels per acre.

FLOUR MILL WANTED.—The farmers of John Day Valley, Grant county, have offered a subsidy of \$3,000 to any responsible person who will erect a good flour mill there.

YAMHILL COUNTY.—The local paper of this county advises the farmers to devote more attention to the cultivation of vegetables; because potatoes there, during the past two years, have been worth as much as wheat, bushel for bushel. This might also be considered a timely hint for many localities in California.

THE FAIR AT THE DALLES.—The Mountaineer sums up the late fair at the Dalles, as follows: The number of fine horses and cattle was not so large, neither was the show so great in the agricultural and mechanical departments as last year; yet what was exhibited was of the very best quality.

THE SALEM FAIR.—The Walla Walla Union does not speak very encouragingly of the fair near that place. We quote as follows: Thursday, at noon, the entry books were closed, and on looking through the pavilion one would be impressed with nothing stronger than the great amount of room there still was left in which articles might have been put on exhibition. There was about one wheelbarrow load of squashes, potatoes, beets, etc., and two cabbages; two wheelbarrow loads of fruit, a small quantity of preserved fruits and jellies, and a few specimens of needle work. Yet, all that there was of it was very good.

The exhibit of stock was better, yet not near so good as it should have been. There are some good animals in the Valley that are

not on the ground this season. There are some very fine pigs. The cattle are not as many in number nor as good in quality as at the last fair. The attendance has been very light, and would be lighter but for a desire to see the agricultural horse trots and races; but these are attractions and will draw a crowd. The horses are good and fast, and the races well worth seeing. To-day there will be some good horses on the track, and we have no doubt fast time will be made. As this will be the last day of the fair, we presume it will be the best as well as the most numerously attended. We would advise our friends to go and see the fair, which is not as good as it should be, yet is worth seeing, because the articles and animals there, although few, are, in most instances, good.

NEVADA.

DESTRUCTION OF BUNCH GRASS.—The Reese River Reveille, says lean kine are being driven into Nevada from California in such numbers as to threaten the utter destruction of the bunch grass which constitutes the chief grazing of that region. This grass is an annual, and growing in a loose soil, in bunches, does not make a sod, and is consequently easily trampled down and destroyed. The ranges where large numbers of stock have heretofore run are fast being thus destroyed, and the entire region of country between the Rocky mountains and the Sierras will soon be denuded of this valuable grass unless some especial expedient is employed to preserve it.

SAGE-BRUSH LANDS.—Evidence is fast accumulating that the sage brush lands, hitherto considered of little account, possess all the elements of productiveness. In proof of this the Reno Journal calls attention to many localities where these lands have been brought under cultivation with most encouraging success. Along the Truckee there are large tracts of land which but a few months ago were covered with a heavy growth of sage-brush, are now magnificent and luxurious fields of clover, yielding princely incomes to the owners. The raising of clover, timothy, and alfalfa hay has been proven a success in every particular, by numbers of our most enterprising farmers.

The cereals yield quite as much per acre as in the richest of California soil. Ornamental shade trees of nearly every kind in common use, also thrive well, and while fruit trees do not do as well, the raising of fruit is not a failure in Nevada; and the raising of berries, such as the gooseberry, currant, raspberry, is a success wherever the same has been engaged in. All this is encouraging.

The Journal adds: "To-day our hills and valleys, covered with rich native bunch grass, are feeding the 'lean kine' of California by the thousands. With all the beautiful, well cultivated, and remunerative farms located in our State, only a few acres, comparatively speaking, of the truly valuable agricultural and grazing lands have been secured, and we sincerely believe the economical, industrious farmer or stock raiser can not do better than to secure a home in some one of the beautiful valleys of Nevada."

One very important fact which is greatly to our advantage and to the interests of those seeking a permanent home, is, that our agricultural lands are not in immense tracts, consequently have never been, and never will be monopolized by 'land grabbers' as in California, and from the great immigration to our State the past year we believe this fact is being appreciated by those wanting permanent homes."

IDAHO.

THE CROPS of Southern Idaho have greatly fallen off this year both in the amount of acreage sown and the average yield. It is estimated the deficiency in barley and oats will be at least 80,000 bushels short of the amount needed for "home consumption." There will also be a short supply of wheat. The average yield of grain of all kinds on 19 farms, this year is only 20.9 bushels to the acre; while the same farms yielded an average of 35.3 bushels last year. This proportion holds good throughout the entire of Southern Idaho.

MONTANA.

THE FAIR AT HELENA.—Great preparations were making at the last account for the Fair at Helena, for which a liberal premium list has been offered. The Society have spared no expense to render it the best and most attractive Fair ever held in the mountains, and their efforts in advancing the material interests of the Territory should meet with a hearty and united second by the people at large.

California State Fair Premiums.

We this week give the remaining premiums which we were unable to publish in our last issue:

MACHINERY, IMPLEMENTS, ETC.

The Babcock Northwestern Fire Extinguishing Co., S. F.; S. C. McDowell, agent—Fire engine and extinguishers; dip.*

Pacific Pneumatic Gas Co., S. F.; F. P. Howard, agt.—Pneumatic gas machine; prem. rec.† Thomas Day, S. F.; F. P. Howard, agt.—New style opal globes and chandeliers, lighted by pneumatic gas, fav. men.†

L. Marks and Molineux, S. F.—Pacific gas machine; dip. rec.‡

Jones & Hewlett, Stockton—Portable threshing machine, Wood, Taber & Morse, Eastern manfr.; dip.

C. B. Brown, Placerville—Self-generating gas burners; prem. rec.

Nicolas Lumsden, Sac.—Machine for manfr. of screwed boots and shoes; dip. rec.

J. M. Frey, M. D., Sac.—Model of Frey's improvement on Evans' under-current sluices for saving gold and quicksilver, for quartz mills and surface mines; s. p.‡

Keller & Willard, Franklin, Sac. Co.—Vibrator threshing machine and mounted horse-power; framed dip.

Atwood & Bodwell, S. F., M. S. Bowdish, agt.—"Little Giant" sweep horsepower; \$10.

Williams & Humphrey, Stockton—Grain draper header apron; dip. rec.

Thomas Wheaton, S. F.—"Buckeye" hay and straw cutter; \$5.

Hawley & Co. M. S. Bowdish agt., S. F.—Clipper mower; fav. men.

Matterson & Williamson, Stockton—Large chisel cultivator, self-sharpening; dip. Horse, hay or grain fork; s. p.

W. H. Pope, Stockton—Graham's broadcast combined seeder and cultivator; dip.

Baker & Hamilton, S. F. and Sac.—Combined "Buckeye" reaper and mower, Nos. 1 and 2, Eastern manfr.; dip.

Dunn & Campbell, S. F.—Iron harrow; \$5.

B. F. Cook, Napa City—Steam harvester; fav. men.

E. F. Aiken, Sac.—Horse corn cultivator; \$5.

M. S. Bowdish, S. F.—Challenge feed-mill, Cal. manfr. dip. and \$10.

Dewey & Co. S. F.—Phillip's patent spiral corn husker, husks corn from stalks, or after it is picked; dip.

Nash, Miller & Co., Sac.—Grain separator; dip. and \$5.

E. M. Ranous, Yreka—Patent gate latch, Cal. invention; and regulator, Cal. invention; dip. rec.

Baker & Hamilton, Sac. and S. F.—Buckeye cider mill; dip.

J. S. Harbison, Sac.—Bee hive; s. p. Italian bees; dip.

N. S. W. Parkhurst, S. F.—Display of scales; dip.

J. G. Anderson, Gilroy—One patent cheese vat; dip. and \$10. Curd cutters; s. prem. Agitator; s. p. Lactometer; s. p.

Iddo Green, Richmond—Butter worker; dip.

A. S. Hallidie, S. F., D. Wood, agt.—Endless wire ropeway; prem. rec. Patent grip pulley; dip. rec.

Thomas B. Park, Downieville—Double action horizontal rotary churn, Cal. invention; \$10.

William Cantelow, Vacaville—Churns; dip.

Weihoort & Co., S. F.—Reaping and mowing knives; s. prem.

David N. Phelps, San Leandro—Air pump for preserving fruit, milk, etc.; prem. rec.

Thomas Orchard, Sac.—Well auger; s. prem. rec. Post auger, s. prem. rec.

G. A. Lloyd, S. F.—Gopher trap; prem. rec. Egg and fruit carrier, s. prem.

Williams & Humphrey, Stockton—Barley forks; dip. rec.

Laufkotter Brothers, Sac.—Stock's patent pump valves; s. prem.

Otis H. Weed & Co., Sac.—Patent carpet sweeper; dip.

PLOW.

Hill & Knaugh, Marysville—Two gang-plows; \$40. Stubble plow; \$10.

Matteson & Williamson, Stockton—Plow for general purposes; \$10.

M. P. Rose, Napa—One-horse plow; \$5.

Myres & Gummow, Marysville—Subsoil gang plow; \$10.

Matteson & Williamson, Stockton—Sulky two-gang plow; s. prem. of \$30 rec.

G. W. Haines, Maine Prairie—Two-gang plow; s. prem. \$20 rec.

W. B. Ready, Sac.—Two-gang plow; s. prem. of \$20 rec.

VEHICLES.

Studebaker Bros. Manfr. Co., (Ames & Woolverton agts.) Sac.—Two farm wagons, one thimble skien and one iron axle; \$15.

Ross & Smith, Reno—Two sulkies (Ross' patent wheel); dip. rec.

Waterhouse & Lester, Sac.—Assortment of wagon and carriage material and trimmings; dip. rec.

W. M. Betts & Co., S. F.—Three sets side carriage springs, one set milk wagon springs, one set Clarence springs, 5 sets buggy springs, one set sulky springs, one set express wagon springs; s. p.

S. H. Davis, Sac.—Ouc Little Giant carriage jack; \$5.

* (dip.) Diploma awarded.
† (prem. rec.) Premium recommended.
‡ (fav. men.) Favorable mention.
§ (dip. rec.) Diploma recommended.
¶ (s. p.) Special premium.

Daniel Mason, Sac.—One single seat open buggy; dip. rec.

Harry Bernard, Sac.—Five top buggies (two with patent wheels); dip. rec. One trotting sulky (weight 64½ pounds); s. p. One farmer's family carriage; s. p. One spring market wagon; \$15. One street goods wagon; \$5. Twenty sets carriage and buggy wheels and hubs; \$10.

P. Craig & Son, S. F.—One hearse and metallic coffin; s. p.

Excelsior Power Co. of New York, E. Soule, agt. Sac.—One anti-friction axle with metallic balls applied; dip. rec.

E Soule, Sac.—One light running gear with anti-friction bearing, locust hubs, set wheels (locust hubs and bent rims), locust fellos and planks—wood Cal. growth and all Cal. make; dip. rec.—assortment of thimble skeins, manfr. in Sac. from patterns of E. Soule; s. p.

Wm. B. Ready, Sac.—One trotting buggy; s. p.

Pollard & Carvill, S. F.—One two-horse family carriage; dip. and \$30. One one-horse family carriage; dip. and \$25. Two top buggies; dip. and \$20. Committee recommend the gold medal to Pollard & Carvill.

Kimball Manfr. Co., S. F.—Two two-seated open carriages; s. p. Five open buggies; s. p. One case plated ware, consisting of specimens in plating of carriage tips; etc.; s. p.

McKibben; S. F.—Two patent iron wheel-barrows; s. p.

Henderson & Clark, Stockton—One three-quarter trotting wagon; dip. and \$15.

FABRICS MADE FROM CALIFORNIA SILK.

Edward Muller, Nevada City—Best pound of reed silk, made in family; \$10. Best sample of cocoons, honorable mention. Gold medal rec.

Joseph Newman, San Jose—Best specimen silk manfr., not less than five years; \$20. Best pound of sewing silk made in family; \$10. Best specimen of raw silk goods; \$10. Best pair silk stockings; \$10. Best pair silk gloves; \$10. Best silk shawls; \$20. Best silk cravat; \$10. Best piece of pocket-handkerchiefs; \$10. Also, such honorable award as the society may see fit.

Cal. Silk Manfr. Co., of S. F.—For a beautiful exhibition of train, raw and sewing silk; medal and dip.

Mrs. S. A. Sellers, Antioch—For an interesting exhibit of the silk business; silver medal.

Tobin, Davison & Co., S. F.—For American manfr. silk goods; s. p.

NEEDLE, WAX AND SHELL-WORK, CLOTHING,

HATS, CAPS.

Oakland Mills, Alameda Co. Oakland—Exhibition of jute goods; s. p.

S. Wilzinski & Co., Sac.—Best exhibit of gents' and boys' clothing; dip.

Madam Anna Getz, S. F.—Wax-work flowers; \$5. Group of wax flowers; \$5. Wax fruits; \$5. Funeral wreaths; s. p.

Mrs. A. O. Cook, S. F.—Wax flowers; s. p. rec. Wax shells and statuary—very fine—s. p. rec.

Miss Belle Maguire, Sac.—Cross and pond-lily wax; s. men.

Mrs. C. Cook, Sac.—Hair jewelry; s. p. Fine device of hair work; \$5. Sea-moss; s. p.

Mrs. Carrie E. James, Sac.—Sea-moss; s. p. (second p. rec.)

Mrs. E. M. Skaggs, Sac.—Hair wreath; s. p.

Mrs. S. Sims, Sac.—Hair wreath; s. (second) p.

Mrs. R. W. Murphy, Sac.—Best display of millinery; \$20.

Mrs. S. Sims, Sac.—Best crochet shawl; \$5.

Mrs. R. W. Murphy, Sac.—Best velvet bonnet; \$5. Best variety of artificial flowers; \$5.

Mrs. W. C. Barrett, Sac.—Best silk bonnet; \$5. Best group of artificial flowers; \$10.

Mrs. C. Cook, Sac.—Best embroidered rug; s. p.

Mrs. W. F. Hicks, Sac.—Best embroidered chair-seat; \$5. Best embroidered ottoman; \$5. Second best silk embroidery; s. p.

Mrs. Evaline Morris, S. F.—Best gentlemen's shirts; \$5.

Woman's Co-operative Union, S. F.—Second best gentlemen's shirts; s. p. Fine sewing; s. p. Best knit stockings; \$3. Second best crochet work; s. p. Best silk embroidery; \$5. Best exhibit and greatest number of articles; dip. and \$10.

Mrs. A. J. Aiken, Sac.—Best tatted collar; \$3.

Miss J. M. Pierce, Sac.—Second best tatting; s. p. Second best bead work; s. p.

Miss Sallie Russell, Sac.—Best chenille work; s. p.

Miss Anna Gherber, Sac.—Lamp-stand; \$3.

Miss Lizzie Allen, Sac.—Sofa pillow.

Miss J. M. Pierce, Sac.—Best flower work; \$5.

Mrs. S. F. Chamberlain, Sac.—Best cone-work; \$5.

Mrs. M. Lamerkin, Sac.—Best skeleton leaves; s. p.

Miss Mary E. Hanlon, Sac.—Best shell-work; \$5.

Miss Carrie James, Sac.—Second best shell work; s. p.

Miss Mary Packard, Santa Barbara—Best embroidered picture; \$10.

Miss Mary Gothe, Sac.—Second best embroidered picture; s. p.

Mrs. L. A. Cole, S. F.—Best afghan; dip.

Mrs. R. L. Jones, Sac.—Model for dress-fitting; s. p.

Mrs. J. H. Carrington, Florin—Best patch-work quilt (log cabin); \$5.

Mrs. E. W. Anderson, Sac.—Best silk quilt; \$5.

Miss Jennie Bradley, Sac.—Best white quilt; \$5.

Mrs. S. M. Hoaver, Elk Grove—Best coverlet; \$5.

Mrs. J. P. Odbert, Sac.—Best knit bed-spread; \$5.

Mrs. A. S. Greenlaw, Sac.—Best hearth rug; \$5.

Mrs. M. A. Joy, Sac.—Second best hearth rug; s. p.

Mrs. Alexander Mackay, Sac.—Best rag carpet; \$10.

Mrs. Charles N. Rhodes, Sac.—Best ornamental needle-work; \$5.

M. Freud, S. F.—Shoulder-brace corset and hoops; s. p. rec.

Mrs. Asbury & Crase, S. F.—Magic curler; s. p. rec.

Mrs. S. M. Hoaver, Elk Grove—Best knit stockings; \$3.

Mrs. H. T. Lowery, Sac.—Walking-dress; s. p. rec.

CHINESE AND JAPANESE GOODS.

In consideration of the great prospective good that must result to our State and the whole Pacific coast from the opening of the Japan and China trade, this committee would recommend, as a testimonial of our recognition of this good, that a silver goblet or medal—with a token of welcome engraven thereon—be awarded to each of said exhibitors.

SADDLERS' AND SHOEMAKERS' WARE AND MISCELLANEOUS ARTICLES.

J. W. Todd, Sac.—Best pair dress boots; \$5. Best pair heavy boots; \$5.

F. X. Kast, S. F.—Best pair gents' dress shoes; \$5. Best pair ladies gaiters; \$3. Best pair ladies slippers; \$3. Best display of ladies' shoes; s. p.

Jas. Parsons, Sac.—Best pair ladies' booties; \$3.

Liddle & Kaeding, S. F.—Cal. made rifles. The committee consider the display the best coming under their observation, and recommend a s. p.

E. S. Scranton, S. F.—Rustic window-shade; dip.

J. H. Mooney, and G. A. Lord, S. F.—Improved gopher and squirrel trap; s. p.

J. H. Mooney, S. F.—Improved tuck-mark for sewing machines; s. p.

R. K. Wick, Sac.—Display of undertaker's goods, casket, etc.; dip or s. p.

S. K. Dodge, Sac.—Display of buckskin gloves; dip.

D. Samuels, S. F.—Display of gloves and mittens; \$3.

G. Reichert, Sac.—Best display of saddletrees; \$3.

D. H. Quinn, Sac.—Best silk hat; \$5.

J. C. Meussdorfer, Sac.—Best soft hat; \$5.

Patterson & Russell, S. F.—Best display of shoemakers' lasts; \$5.

S. H. Sheplar & Co., S. F.—Holt's patent rubber type marking-wheel or lightning printer; honorable men. Rubber hand-stamps and New York dater; s. p.

John Ashton, Tomales, Marin county—Dutton's improved harness; honorable men.

P. Caduc, S. F.—Best wood pavement on exhibition; dip.

Henry Campbell, S. F.—Patent treadle for sewing machine; s. p. Lamp-bracket for sewing machine; s. p.

E. H. Parker, Sac.—Best display of saddles; \$10. Best farm harness; \$10.

James Hartley, Sac.—Fleece of fine wool; s. p.

A. Brooks, Sac.—Shoe-lasts; dip.

CABINET WARE.

George E. Phelan, S. F.—Best Cal. made billiard table, Cal. laurel and black walnut, with Eureka wire cushions; second p. rec.

C. B. Pennington, Sac.—For diamond mahogany hat rack; honorable men.

John Breuner, Sac.—Best dressing bureau; \$10. Best sofa lounge; \$5. Best extension table; \$5. Best office chair; \$5. Best set parlor chairs; \$10. Best book case; \$5. Best set parlor furniture; \$20. Best sick chair or couch; \$5. Best display of furniture; \$20.

Jacob Strahle & Co., S. F.—Best billiard table, wire cushions, Cal. laurel and birds-eye redwood, Cal. invention; first p. rec. Best set bed-room furniture, Cal. laurel and birds-eye redwood; p. rec. Best centre table, made of twenty different Cal. woods; \$5. Best ladies' work boxes; honorable men. For mosaic inlaid floor; p. rec.

A. S. Hallidie, S. F.—For wood carpet; p. rec.

N. P. Langland, Sac.—For black walnut and laurel newels, rails and bannisters for stairway of State Capital; p. rec.

WOODEN WARE.

Nichols, Falvey & Co., Sac.—Assortment of woodenware, Cal. cedar and pine; \$10. Best display of woodenware; \$50.

A. J. Biglow, Emmaton, Sherman island—One bundle basket willow; honorable men.

C. Shafer, Sac.—Best two oval wine casks \$10.

W. J. Palmer & Co., S. F.—Best writing desk; \$5. Best school desks; \$5.

PHILOSOPHICAL INSTRUMENTS, ETC.

J. F. Uhlorn, Sac.—For extension side-sticks or printer's furniture; dip.

Edward Dillon—For best marine chronometers; dip.

GLASS, CROCKERY, STONEWARE, ETC.

Mocker & Quale, S. F.—Best plaster paris; honorable mention.

Adams, McNeill & Co., Sac.—For best powder; s. p.

Withington & Bagley, Sac.—Best pyramid washing soap and powder; dip.

N. Siebert, S. F.—Best lubricators for oiling steam cylinders; dip.

Mission Candle Works, S. F.—For assortment of sperm, chemical wax, solar sperm, coach, hotel and color candles; gold medal rec.

Yount & Fletcher, Sac.—For best paint, manfr. by Cal. Chemical Paint Co.; dip.

Colby & Brock, Mormon island—For sample of Cal.-raised opium and poppy seed; s. p.

Thomas O'Neil, S. F.—Best sample cut glass, door plates, church windows and sample stained glass; dip.

W. Clark & Co., Sac.—Best fire brick, \$3; best pottery of various kinds, silver medal; best stone ware, dip; best drain and flooring tile and sewer pipe, s. p.

Pacific Wood Preserving Co., S. F.—For display of preserved wood, gold metal rec.

CHEMICALS.

B. R. Sweetland, Sac.—Best ivory black; \$5. Best prussian blue; \$5. Best copal varnish; \$5. Best glue; \$5. Best prussiate of potash; \$5. Best white lead; \$5. Best lard oil; \$5. Best castor oil; \$10. Best linseed oil; \$10.

J. F. Fugazi, Sac.—For best Oriental oil hair dye; silver medal rec.

Van Winkle & Davenport, Sac.—For one box borax from Wadsworth, Nevada; honorable mention.

MINERALS.

Henry G. Hanks, S. F.—For collection of minerals, s. p.; for collection of fossils, s. p.

Phoenix Quicksilver Mine, Napa—For specimens quicksilver ore, honorable mention.

E. F. Howett, Grand Island, Colusa Co.—Best lot of iron ore; honorable men.

WORKED METALS, STOVES, ETC.

J. E. Parker, Sac.—Best carriage harness; \$10.

Elworthy & Duperow, Sac.—Best sash-holder and lock; dip.

C. Hunter, Clyde, Ohio—Best pruning knives; dip.

W. H. Earl, Sac.—Best tin milk cans; dip.

S. H. Davis, Sac.—Best display of mechanics' tools; \$10.

Thos. H. Selby & Co., S. F.—Five kegs shot; dip. Best display of plumbers' goods and wares; dip. and \$10.

John Burns, Stockton—Best display of horse shoes; dip. and \$5.

A. Brooks, S. F.—Champion roller skates; dip.

G. A. Lloyd, S. F.—Double action spring door hinge; s. p. rec.

A. Hunter, Napa City—Variety of mill augers; dip.

John Ashton, S. F.—Best harness; dip.

Yale Lock Manfr. Co., S. F.—Best display of locks; \$5.

A. L. Fish—Knowles patent steam pump; s. p. and dip.

Elworthy & Duperow, Sac.—Sash holder (Cal. invention); dip.

Goddard & Co., Pacific Ironworks, S. F.—Cast-iron pipes for gas or water, cast by the new vertical process for the Metropolitan Gas Co.; dip. and s. p.

F. P. Howard, agent, S. F.—Gates for gas, water or steam (Chapman patent); dip.

R. Savage, S. F.—Empire range (Cal. manfr.—wood); dip. and \$5.

Gillig, Mott & Co., Sac.—French range (Eureka, Cal. manfr.); \$10. Prindal's farmer's cauldron and steamer; \$5.

R. C. Terry & Co., Sac.—Portable hot-air furnace; \$5. Best display of kitchen and tinware, dip. and \$10.

J. G. Covey, St John, N. B. Cooking apparatus (Eastern manfr.); dip.

Asphaltum Pipe Co., S. F.—Asphaltum pipe; dip.

M. Barthel, Pacheco—Farm gate; dip. and \$15.

MUSICAL INSTRUMENTS.

L. K. Hammer, Sac.—Best grand piano; \$20. Best square piano; \$20. Best parlor piano; \$10—manfr. by Chickering & Co.

John F. Cooper, Sac.—For Mathushek "Colibri" piano; s. p. rec. For very fine Derrick & Felgake portable pipe organ; s. p. rec. Reed organ; s. p. rec. Silver flute; s. p. rec.; also deserves special mention.

CHEESE.

J. R. Jewel,

\$3; best canned quinces, \$3; best canned cherries, \$3.

Mrs. J. P. Odbert, Sac.—Best canned gooseberries, \$3.

Mrs. E. F. Aiken, Sac.—Best canned currants, \$3; best canned grapes, \$3.

Mrs. E. F. Aiken, Sac.—Largest and best varieties of canned fruit; dip.

Mrs. J. P. Odbert, Sac.—Largest and best varieties of canned jellies; dip.

Mrs. N. Clark, Sac.—Largest and best varieties of canned preserves; dip.

Mrs. J. P. Odbert, Sac.—Best apple jelly; \$3. Best currant jelly; \$3.

Mrs. E. F. Aiken, Sac.—Best peach jelly; \$3. Mrs. N. Clark, Sac.—Best quince jelly; \$3.

Mrs. N. Clark, Sac.—Best preserved quinces; \$3. Best preserved peaches; \$3. Best preserved pears; \$3. Best preserved apples; \$3.

Mrs. E. F. Aiken, Sac.—Best preserved plums; \$3.

Mrs. J. P. Odbert, Sac.—Best tomato catsup; \$3. Best cucumber catsup; \$3. Mush-room catsup; prem. rec.

Mrs. E. F. Aiken, Sac.—Best pickled gherkins; \$3.

Mrs. J. P. Odbert, Sac.—Best pickled peaches; \$3. Best pickled tomatoes; \$3.

Mrs. E. F. Aiken, Sac.—Best pickled onions; \$3.

BACON.

James Asbury, Woodland—Best cured bacon and hams; prem. rec.

SILK.

Edward Muller, Nevada City—Best exhibition of the silk business, from the mulberry tree to cocoon, including feeding of the worms, their eggs, etc.; \$50.

GRAIN AND GARDEN SEEDS.

D. L. Perkins, Sherman Island—Largest and best display of grain seed; \$10.

H. Cronkite, Brighton, Sac. Co.—Best two sacks white Tuscan wheat; \$10.

A. B. Gilbert, Brighton Sac. Co.—Best one bushel white corn; \$5. Best one bushel early corn; \$5.

R. J. Markley, Sac.—Best one bale hops; \$5. F. Heim, S. F.—Best two sacks Surprise oats; \$5.

A. J. Bigelow, Emmaton, Sherman Island—Best one sack Australian wheat; \$10. Best one sack Little Club wheat; \$10. Best one sack Russian barley; \$5.

P. H. Fisher, Brighton—Best one sack yellow corn; \$5.

Johnson Co. Agricultural and Mechanical Society, Iowa—s. p. rec.

E. F. Aiken, Sac.—Best half peck castor oil beans; \$5.

John Stadarus, Brighton, Sac. Co.—Best half dozen watermelons; \$3.

D. G. Perry, Emmaton, Sherman Island—Best variety potatoes; \$10. Best variety yellow onions; \$3.

D. L. Perkins, Sherman Island—Best two varieties corn (dry and green); \$5. Best summer squash; \$10. Best variety tomatoes; \$5. Best variety cucumbers; \$3. For largest and best variety of vegetables raised by one exhibitor; \$50. One sack garden peas; \$3.

A. B. Gilbert, Brighton—Best variety of pumpkins; \$5.

Henry Hyser, Sac.—Best three green flesh muskmelons; \$3.

Robert Williamson, Sac.—Best half bushel Carolina sweet potatoes; \$5. Best half peck white onions; \$3. Best twelve carrots; \$3. Best half peck sweet pepper (green); \$3. Best half peck sweet pepper (dry); \$3. Best six stalks celery; \$3. Best six Hubbard squash; \$3. Best half peck white kidney beans; \$2. Best half peck cucumbers; \$2. Best half peck tomatoes; \$3.

V. Russell, Brighton—Best mammoth pumpkins; \$5.

P. H. Fisher, Brighton—Best half dozen blood red beets; \$3.

J. H. Wolf, Brighton—Best and greatest display of melons; \$10. Best and greatest display of squash; \$10. Best mountain sweet watermelon; \$2. Best half dozen sweet corn; \$3.

FLOWERS.

F. A. Miller, S. F.—For the best display of growing flowers; \$25. Best display of cut flowers; \$25.

Thomas O'Brien, Sac.—For the exhibit of a very choice collection of flowering plants; a liberal s. p. rec.

Dr. J. M. Frey, Sac.—Special mention of the display of rare and beautiful flowering plants.

Judge E. B. Crocker, Sac.—The society is indebted for the exhibit of a collection of rare and beautiful plants and flowers.

WINES.

C. Detton, Stockton—Best white still wine four years old; \$10. Best white still wine three years old; \$10.

J. R. Nickeson, Lincoln—Best white still wine two years old; \$10.

O. H. V. Association, Sac.—Best white still wine one year old; \$10.

C. Detton, Stockton—Best red still wine four years old; \$10.

J. R. Nickeson, Lincoln—Best red still wine two years old; \$10. Best red wine one year old; \$10.

B. N. Bugbey, Folsom—Best white sparkling wine; \$10.

O. H. V. Association, Sac.—Best port wine; \$10.

J. R. Nickeson, Lincoln—Best claret wine; \$10.

Newell & Culbertson—Best sherry wine; \$10.

B. N. Bugbey, Folsom—Best exhibition of wines; \$20.

J. R. Nickeson, Lincoln—Best brandy one year old; \$10.

C. G. Carpenter, Diamond Springs—Best brandy two years old; \$15.

Newell & Culbertson—Best brandy three years old; \$25.

C. G. Carpenter, Diamond Springs—Best peach brandy; \$15.

Swan Brewery Co., S. F.—Best porter; honorable men. Best pale ale; dip.

Schaeffer & Walter, S. F.—Pipifax bitters; dip.

William Hawkins, S. F.—U. S. A. Indian root bitters; dip.

J. Renz, Sac.—Dr. Renz's herb bitters; dip.

FRUITS.

O. B. Thour, Sonoma—Best twenty varieties apples; \$40.

A. S. Greenlaw, Sac.—Best ten varieties apples; \$20.

C. W. Hoyt, Sac.—Best twenty varieties pears; \$40.

J. S. Bamber, Placerville—Best ten varieties pears; \$20.

E. M. Smith, Coloma—Best ten varieties peaches; \$20.

E. W. Gavitt, Placerville—Best five varieties peaches; \$10.

J. S. Bamber, Placerville—Best ten varieties plums; \$20.

E. W. Gavitt, Placerville—Best five varieties plums; \$10.

O. B. Thour, Sonoma—Best twenty varieties grapes; \$40.

J. S. Bamber, Placerville—Best ten varieties grapes; \$20.

A. J. Biglow, Sherman Island—Best single variety grapes; \$10.

B. N. Bugbey, Folsom—Best and greatest varieties of wine grapes; \$40.

R. B. Blowers, Woodland—Fine exhibit grapes; s. p.

W. S. Runyon, Sac.—Choice table grapes; s. p.

Robert Williamson, Sac.—Best display of seedling fruits; \$10.

J. R. Nickeson, Lincoln—Best general display of fruit, embracing best and greatest varieties; \$100.

C. G. Carpenter, Diamond Springs—General display of fruit; s. p.

J. S. Bamber, Placerville—Best display of dried fruits; \$10.

Mrs. E. F. Aiken, Sac.—General display of dried fruits; s. p.

Miss F. W. Smith, Sac.—Best dried figs; \$10.

Mrs. E. F. Aiken, Sac.—Best 24 pounds of raisins; \$15.

Mrs. E. F. Aiken, Sac.—Best dr. prunes; \$10.

O. B. Shaw, Sonoma—Best half peck of soft-shelled almonds; \$5.

E. M. Smith, Coloma—Best lem. quince; s. p.

Mrs. J. Lohman, Sac.—Best apple quince; s. p.

C. W. Hoyt, Sac.—Best ripe undried figs; s. p.

Exhibitors of fruits from Leavenworth, Kan. Co., South Pass, Ill.; Jones Co., Ia.; Cedar Co., Ia.; Princeton, Illinois; Boston, Massachusetts, Ia.; Lee Co. Ia.; Keosauqua, Van Buren Co., Ia.; Farmer's Club, agricultural and horticultural, Milton, Wis.; Grand Rapids, Mich.; Louisville, Ky.; Iowa City, Iowa; Johnson Co. Agricultural and Mechanical Society, Iowa City, Iowa; Virginia Horticultural and Pomological Society; Kansas State Agricultural Society; Illinois State Agricultural Society; Rochester, New York; Marshal P. Wilder, Boston, Massachusetts; South Pass, Illinois; Fairfield, Iowa; Connecticut Board of Agriculture; Shanghai, China; honorary dip.

O. B. Shaw, Sonoma—Best oranges; \$5. Best lemons; \$5.

FINE ARTS.

D. H. Woods, Sac.—Best life-size photograph in oil; \$20. Best portrait painting in oil, by Cal. artist; \$50.

F. Swanwell, Sac.—Best landscape painting in oil, by Cal. artist; \$50.

John A. Todd, Sac.—Best specimens of uncolored photographs; \$20.

Oscar Kalkschmidt, S. F.—Best specimen fruit painting; \$10.

Howard Campion, Sac.—Best specimen Cal. landscape in oil, by Cal. artist; \$20.

Oscar Kalkschmidt, S. F.—Best exhibition of paintings; dip. and \$50.

Harrison Eastman & Co., S. F.—Best fancy paintings in water colors; dip.

Crane & Curtis, S. F.—Best wood engraving; dip.

Mrs. W. E. Brown, Sac.—Best porcelain painting; dip.

Pacific Business College, S. F.—Best specimens of penmanship; \$5.

O. Schrader, Sac.—Best specimens crayon drawing; \$5.

Sophia P. Gregory (pupil of Espina), Sac.—Best specimens pen drawing; \$5.

Mrs. E. C. Bingay, Sac.—Best specimens pencil drawing; \$5.

C. C. Davine & Bro., Sac.—Best sculpture; \$20. Best collection of marble work; \$20.

Charles V. Rhodes, Sac.—Carving on wood; dip.

Pacific Bridge Co., Oakland—Best model bridge; dip.

I. W. Taber, S. F.—For display of large and very fine plain photographs; s. p.

P. A. Espina, Sac.—Best display of pen drawing and ornamental penmanship; silver medal rec.

Arnold Bradford, Sac.—For crayon drawing, by a boy; s. p.

John Allen, S. F.—For stone seal engraving; s. p.

Mrs. A. E. Wood, S. F.—For ivorytype; s. p.

W. C. Butler, S. F.—Best display of wood engraving; s. p.

F. Marriott, S. F.—Cal. Mail Bag; dip.

USEFUL INFORMATION.

All Metals Yield Pigments of Some Kind.

Mercury produces vermilion. Venetian red, mars orange, and yellow and Indian red are produced from iron. Copper gives us emerald green and verdigris. Chromium affords oxide of chromium and chrome yellow. King's yellow and orpiment are made from arsenic. Cobalt blue and smalt from the metal cobalt. Zinc supplies zinc white. Lead supplies white lead, Krem's white flake white, china white, patent yellow, red lead and orange mineral.

Among the colors extracted from animal matter, those distinguished by the brilliant hues imparted through the agency of Prussic acid, are most remarkable. This peculiar acid is produced by the calcination of dried blood, and the hoofs and horny parts of animals, and in conjunction with iron, affords those beautiful and powerful blues known as Prussian and Antwerp blue. Gall stone and Indian yellow are the products of animal economy, and the cochineal insect, by a particular treatment and great delicacy in manipulation, is made to yield the most powerful and beautiful crimson known, namely: the carmine and the crimson lakes. Scarlet and purple lakes are also made from the same by varying the mode of manufacture.

Vegetable colors, from the want of permanency, are mostly rejected by the color maker. Among the few that are retained, the madder root holds the most conspicuous place. The indigo plant and gamboge also afford useful colors in the fine arts. Among the vegetable colors we must class Frankfort black, and that most important pigment, lamp black.

From this brief review, it would seem that all the kingdoms of the material world and all quarters of the globe, are laid under contribution to supply to the painter his stock of colors.

THE BLOODHOUND.—Is not a very interesting or valuable species of canines. Its origin was probably the Talbot hound—produced by selection and care in breeding. The bloodhound is tall, strong—but if pure, never exceeds twenty-eight inches in height at the shoulder; ears long and pendulous; color, if pure, tan, or black and tan; any white indicates impurity; jaw deep; air majestic and solemn; vertex of the head protuberant, and the protuberance indicates high breeding.

Richardson says that this hound does not injure the object of his pursuit but traces him to his hiding place, and then by his loud baying indicates his position. Wonderful stories are told of the acuteness of his scent, even when the object of search has entered the town and traversed streets that hundreds of other persons have more recently trodden; and it is asserted that the only means of escaping his unerring scent is by crossing water or spilling blood on the track. The latter practice destroys the discriminating fineness of the scent. We have also heard persons who have tried it assert that smearing the shoes with onion juice also distracted them.

TO MAKE COURT PLASTER.—Soak isinglass in a little warm water for twenty-four hours; then evaporate nearly all the water by a gentle heat, dissolve the residue in a little proof spirits of wine, and strain the whole through a piece of open linen. The strained mass should be a stiff jelly when cool. Now, extend a piece of silk on a wooden frame and fix it tight with tacks and packthread. Melt the jelly, and apply it to the silk thinly and evenly with a hair brush. A second coating must be applied when the first has dried. When both are dry, cover the whole surface with two or three coatings of Balsam of Peru, applied in the same way. Plaster thus made is very pliable, and never breaks.

CULTIVATING SPONGES.—The French and Austrian governments have begun to raise sponges artificially; the former on the shores of the Mediterranean, and the latter on the coast of Dalmatia and the cultivation said to be perfectly successful and very profitable.

It has recently been discovered in France that splendid blotting and wound-dressing paper can be manufactured out of sponge. The sponge is reduced to an impalpable pulp by grinding, and is then made into paper by the usual process. The discovery is secured by a patent, and will prove valuable, as the paper thus made is indispensable in dressing wounds.

GOOD HEALTH.

Wearing Glasses.

Some physicians have advised that people should never put on glasses for reading or writing, but continue persistently to read and write without them, by which, it is claimed, by such advisers, the eye will regain its former power.

The fact is that the eyes of some are probably susceptible to such a change—a renewal, or as it is sometimes called a "second sight"—but it is only the empiric who is absolute and final in his decision. The legitimate, thinking professional makes experiments and arrives carefully and cautiously at results, which he finds vary with different constitutions and diverse physical developments.

In the use and non-use of glasses, much depends upon the individual case. Experience teaches that what will help one will not help another under precisely similar circumstances.

Studious habits, overwork, greatly taxing the eyes to perform severe and continuous duties, are common causes of their early failing. The introduction of the art of printing and the general habit of much reading is doing considerable toward a general increase of weak eyes, over what formerly existed; but the idea of relying on time, as a general thing, for its restoration, is utterly inadmissible, in view of the numerous careful experiments which have been made.

ASTHMA INCURABLE.—Asthma is an incurable disease by human agencies. An attack can be modified or shortened, and this is all that the thousand and one vaunted remedies for the "cure" of asthma can do; they alleviate or remove for the time, nothing more. Sometimes the disease lies dormant for months or years, only to re-appear in some change of life, or more terrible form of human affliction. In some cases it disappears in childhood, to show itself again after forty years. Children sometimes "outgrow it." If it disappears at the "change of life," it may not be heard of again, but that life will seldom reach three-score and ten.

It is very certain that persons troubled with asthma may be exempt from it for a succession of years, and even for life, by removing to a different atmosphere or a different climate; hence, instead of losing time in the attempt to "cure" asthma, or of being satisfied with shortening or curing merely an attack of it, it would be a wiser course to change localities or climate.

BLEEDING FROM THE NOSE.—"What is the cause of bleeding at the nose? How can it be prevented or stopped?"

This occurs most frequently about the period of puberty, when there is usually a greater tendency to plethora than at other times. It can be prevented by keeping the depurating organs, the skin, bowels, and kidneys, in an active condition, by plenty of exercise, and by guarding against eating more than the system requires. It can usually be stopped by bathing the nose in cold water, and snuffing cold water up the nostrils. Care should be taken to keep the head well elevated. In connection with this, a hot foot bath is useful. In severe cases, the nostrils may be plugged with lint, or a soft sponge. When the hemorrhage is from the front part of the nasal passages, firm pressure with the thumb and finger will generally stop the flow.—*Hearth and Home.*

SUNKEN CHEEKS—WHAT CAUSES THEM?

There are many causes which tend to produce hollow, wasted and sunken cheeks, the chief of which is dyspepsia, or any form of disturbance of the digestive organs. The use of tobacco is among the most fertile causes of dyspepsia. The too free use of pepper and other spices, vinegar, greasy food, sugar in excess, greatly damage digestion and make the skin dry and leathery, the face angular and the cheeks sunken.

DEATH FROM THE STING OF A HORNET.—A woman died in Algonquin, Ill., recently, from the effect of a sting from a black-and-white hornet.



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SUBSCRIPTIONS payable in advance.—For one year \$4; six months, \$2.50; three months, \$1.25. Clubs of ten names or more \$3 each per annum. \$5, in advance, will pay for 1½ year. Remittances by registered letters or P. O. orders at our risk.

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SAN FRANCISCO:

Saturday, October 7, 1871.

Our Weekly Crop.

This week we present our visitors with a fine pictorial representation of that early California Settlement, which has become famous, of late years, as the place where so many persons have made the acquaintance of our worthy President. A well written history of this locality is also presented from the pen of one of our most talented lady writers. After taking a "good look" at the picture, and noticing the interesting additions to our Mechanical and Scientific Library, we mount our favorite "Percheron" and make a hasty trip to the Colorado Fair, where we find the most remarkable evidence of the progress which Agriculture is making in the great interior portions of the Continent.

Returning, we find an interesting Letter from Santa Cruz accompanying our usual Agricultural Summary for the week, and another and final installment of the Premiums awarded at the State Fair, following which we find some further Useful Information, and some valuable hints on Good Health.

The attention of our friends is next called to the Removal of our Office, to a new location, more central for business and more convenient of access. We here find many items of interest among which is a brief report from the Upper Sacramento Valley Fair; some further items from the California State Fair Exhibits and something about the proposed Southern District Fair.

And just here, by the way of desert, we are treated to a delicious branch of Cherries, all the way from Oregon, accompanied by some information with regard to the Cultivation of this delicious fruit. As no house can be thoroughly furnished without some device for lightening the labors of washing, we have introduced into our rural home the Pacific Steam Washing Machine, one of the most approved inventions of the kind in use. After examining several other Patents and Inventions, we pass on to spend our accustomed hour in the delightful retreat of the Home Circle, where we listen to some interesting talk and stories for the children and take a look into the Domestic Economy of the Household generally, preparatory to the more laborious work of considering the proposition of the California Chemical Paint Company to furnish our premises with a new, clean and durable coat of paint. In deciding upon the merits of this new paint we call to our aid the wisdom of the California Academy of Sciences, which we find at the time engaged in a grave discussion upon the origin and character of a remarkable dust shower which was lately noticed off our northern coast.

FIRE—HOPS DESTROYED.—The hop-drying establishment of Mr. Isaac Bird, of San José, was destroyed by fire on Monday evening last. Some eight or nine tons of hops as well as the kiln were destroyed. Loss about \$20,000,—no insurance. The fire is supposed to have originated by accident, from the furnace.

Removal of Our Office.

We know that our readers feel a personal interest in the prosperity of our enterprise, and it is for this reason we will say a word or two about our removal. We dislike changes of business locations, on general principles; but we have been so long away from the business center of San Francisco, (which has for years been moving towards Market street,) that we very gladly embraced the opportunity of placing ourselves in our present desirable quarters, on the Southeast corner of Montgomery and California streets, diagonally across from the well known location of Wells, Fargo & Co's. Express office. We have taken a lease of the entire 3rd story of the building, where our numerous friends will find us with pleasant apartments. Every branch of our business has steadily increased, during the past eight years, and now fully justifies what we have fortunately secured, one of the best and most central locations in the city—where we shall at all times be pleased to see our generous and intelligent patrons.

Our editorial rooms and printing office will remain for the present at the old place, No. 414 Clay street.

The Merced Cotton Experiment.

Notwithstanding the success of this particular enterprise on the Buckley Bros' ranch, there is no reason for supposing that cotton can be grown with profit in the great central valleys of the State, generally. The plant must have access to moisture in some way; yet there are few plants which thrive better than this from irrigation.

The Merced plantation is located directly upon the bank of the river, and at a point where the land is generally only two or three feet above the surface of the water, hence the roots of the plant have no difficulty in finding a sufficiency of moisture. A small portion of the field, which was a little above the general level had to be irrigated. This experiment, however, proves that our soil and climatic conditions are very favorable for such a growth, which might undoubtedly be made a valuable crop on most lands, the breadth of which is constantly being increased by reclamation from the tule; and on much other land which is conveniently located for irrigation.

According to the Snelling *Argus*, some of the stalks contained over 200 well developed bolls, and on one 250 were counted, each of which, it was thought, would fully mature. Col. Strong expects to gather 1½ bales per acre—more than double the average product of cotton lands of the Southern States. Picking has already commenced and will probably be continued until the rains set in, as in our dry climate no damage can occur to the fibre until that time.

THE SAN JOAQUIN IRRIGATING CANAL.—Work is progressing on this important enterprise with a commendable degree of energy. Some thirty miles have already been excavated, commencing at Fresno Slough, and the work will be pushed as rapidly as possible through the winter. It is expected that a point on the railroad will be reached by April, near Ellis Station.

The work when finished will be over 200 miles long; commencing at King's River, thence 60 miles to Fresno Slough, from thence 150 miles to a point near Antioch, on the San Joaquin River where it will terminate.

The dimensions of the cut are: width, forty feet; depth, seven feet, including height of bank; width of bank at base, twelve feet; top, six feet. The intention is to run tow-boats along the canal when complete. Force at work, about two-hundred men. It is the intention to complete the section between Fresno Slough and Antioch first, then to connect the former point with King's River.

Upper Sacramento Valley District Fair.

This Fair commenced at Chico, on Tuesday the 26th ult., and ended on Saturday following; but owing to duties that could not be neglected elsewhere, our reporter was not on the ground in time to make a report for our last week's issue. He was not there, in fact, until Thursday—the day we go to press. Even then upon entering the Pavilion it was apparent that the Fair was hardly under way, many of the tables and other space appropriated to fruit and other farm products being empty. On Thursday an additional contribution of fruit and wine from J. R. Nickeson, of Placer, was placed on exhibition, and some other contributions were brought in, so that on that evening the fruit and vegetable display was very creditable—though nothing compared to what it should and might have been; when we consider that this district embraces within its limits one of the most productive portions of the State.

The Names of Exhibitors.

In our opinion, should always be attached to articles exhibited at our fairs, so that persons desiring any information in regard to them may know of whom to inquire. It is also a gratification to the exhibitor himself, if he has a good article, to have the credit of producing and exhibiting it. Small things bring about great results sometimes, and we believe the practice of putting the name of the exhibitor prominently on every article placed in a fair, has a great influence in bringing about good fairs. At this fair there were cards attached to the articles, denoting the number of the entry, class, etc.; but no names; consequently we were unable in many instances to learn to whom to give credit. This suggestion is made in all kindness, and if once adopted we are confident it will be of great advantage in getting up future fairs.

A comprehensive and valuable exhibition from one farm, was made by General Bidwell. It embraced almost everything that is, or can be produced in California, and was really a credit to the State and to the exhibition. Very fair samples of some five or six varieties of wheat, were shown in small boxes neatly arranged and labelled, also samples of different varieties of barley and oats, all of most excellent quality. Vegetables in great variety and of excellent quality were also shown. The samples of the purple Egg plant were universally acknowledged to be the largest ever seen by any one in this State. They were as large as good sized cantaloupes. Fruit of many kinds, both green and dried, were also exhibited from the General's orchard, also grapes from his vineyard and we believe the entire floral exhibition, which was very creditable, came from Bidwell's gardens.

Two or three more such exhibitions as were made by the General in the Pavilion would have furnished an exhibit of which the State even might well be proud. There are plenty of farmers in the immediate vicinity of Chico, who could have equalled or excelled the exhibition by Bidwell, but who did not enter an article; and we have no doubt they now regret their neglect.

We hope they will not allow themselves to have any cause for doing so again. The Mechanical department was very well filled. Henry Bernard of Sacramento had a large number of excellent carriages and buggies; Pike and Young of the same place had also some buggies on exhibition; Joseph Hill, and Ames and Woolverton, showed a good assortment of express and farm wagons.

The conclusion of the report has not come to hand up to the hour of going to press; and must consequently be delayed until next week.

THE FIRES which were recently raging in Lassen County Mountains have been extinguished.

California State Fair Exhibits.

Following we mention briefly some of the articles which come under our special observations:

CALIFORNIA HAMS.—James Asberry, of Woodland exhibited, a out of a two-year-old hog, which weighed 1,200 lbs.,—smoked sides weighing 95 lbs. each; hams 57 lbs., and shoulders 60 lbs. The pig was a barrow of California breed. Mr. A. now has a sow in thin condition which weighs 1,100 lbs., which he expects when fattened to out-weigh all porkers on record. We hope to see sufficient interest taken in pork raising on this coast to put a sudden stop to the importation of swine, hams, lard, etc., from States east of the mountains.

COMBINATION GRAIN HARVESTER.—B. F. Cook, of Napa, the inventor of several interesting machines, (some of which have been patented) has combined a Haines' header with a Pitts' thresher, and a portable threshing engine, whereby he cuts the grain in the field, threshes, cleans and sacks it in one operation. His model exhibited illustrates the plausibility of his plan in theory. He adjusts the machinery so that all the work of cutting, threshing and cleaning can be done by the power of the engine if desired, so as to leave no work for the teams, but to draw the machine. He has an ingenious method of leveling parts of the machine, whereby the engine and boiler can be kept constantly level over uneven or sideling ground. Working experiments in the field has convinced Mr. C. that his machine is practical, and we hope we will find ample means to help him demonstrate most speedily its value. His machine is calculated to cut 18 feet wide.

GRAIN AND STRAW CARRIERS AND DRAPERS, for harvesting machines, etc., were exhibited by California manufacturers, Messrs. Williams & Humphrey, of Stockton, who do a very creditable business, we understand.

WOODEN WARE, ETC.—Nichols, Farley & Co., of Sacramento, displayed a general and fine assortment. California furnishes large quantities of excellent and cheap wood for tubs, pails, etc. Huntington, Hopkins & Co. sell the wares of the above named manufacturers.

BARTHEL'S PATENT GATE—opened and closed without alighting—is one of the best Pacific coast inventions of the past year. He had a poor chance to exhibit on the society's grounds, under a burning sun, while most people present were absorbed with the races. It would be better for the managers to make more space for such articles at the Pavilion hereafter.

THE STOCKTON PORTABLE GAS MACHINE gave a clear and remarkably steady light. Patented by Dr. J. L. Bartlett, of Stockton. It is designed for farm, village, and factory use, and claimed to be no more dangerous than a pump in the house. Several machines are now being built by Mills & Dolt, manufacturers, Stockton, and will soon be tested by practical use. The Doctor has several other promising inventions not yet made public. His wife is one of our successful California lady applicants for patents, being the inventor and patentee of the improved lady's side-saddle, illustrated a year ago in the SCIENTIFIC PRESS.

THE STATE FAIR GAZETTE, published as usual by H. S. Crocker, and circulated free, was well received by visitors. Mr. C., who does most of the railroad printing on this side of the continent, is about to open a large and entirely new job office in San Francisco. Among the novelties in his Sacramento office, is a job press which prints in three colors at one impression. It is the first of its kind in the State.

THE BOOT SCREWING MACHINE, patented by N. Lumsden worked admirably. It appears to be a decided American improvement on the French machines for "soleing" boots and shoes.

BROWN'S CORN PLANTER was exhibited by Stewart Bros., of Ione City, who are the authorized agents for California.

RARE SEEDS.—Judge Devine, of San José, has distributed some 75 varieties of seeds of rare flowers and plants, recently obtained by him while in India, from the botanical gardens at Calcutta.

LOW WATER.—The Sacramento river is one foot lower at Chico than over known before.

The Southern District Fair.

The Southern District Agricultural Association for the Counties of San Diego, Los Angeles, Santa Barbara, Kern and San Bernardino, will commence its first Annual Fair at Los Angeles on the 31st of the present month. The rules and regulations which have been adopted are excellent, and the premiums offered are liberal enough to induce a large exhibition. The premiums are intended and offered only for the District embracing the above mentioned counties; and no premiums will be awarded unless for articles grown, produced, or manufactured in said district. The counties in this District should be moving in the matter, and see that they are each and all well represented. The Santa Barbara Press is urging the people of that county to be up and doing. It says:—"Some of our farmers and stock owners are already awake to the importance of this movement as it relates to their own prosperity and welfare. But too many are yet apparently hardly aware that such a Society is in existence, much less do they know that it has a fine fair duly prepared for and now near at hand. Great and liberal efforts are to be made to secure a success for the Fair worthy the fertile and peculiar country embraced within its territory." All the papers throughout the District are calling the attention of their readers to the importance of the movement.

Cherry Culture.

We present herewith a correct representation of the remarkable cherry tree limb which we received some time since, (by the kindness of Mr. Wilkinson of the Deaf and Dumb Asylum), from the nursery of Mr. Seth Luelling, on the Willamette river, near Milwaukie, Oregon. This limb was seven-eighths of an inch in diameter at the point where it was severed from the tree, measured five feet in length, contained 354 cherries, and weighed with its fruit seven pounds. The cherries are very large, nearly one inch in diameter, and are of the Royal Aun variety.

After exhibiting the limb for a few days on Montgomery street, it was cut into short lengths and placed in alcohol, in which condition it was shown at the late Mechanics' Industrial Fair, and may now be seen at the office of the PACIFIC RURAL PRESS, No. 338 Montgomery street.

The cherry is one of the most delicious of all small fruits. It delights in a rather heavy soil, and a high and dry locality. It is a very tender tree to cultivate and requires the greatest care and attention. So highly is it appreciated, that well grown, healthy trees of approved varieties, in the vicinity of our Eastern cities, have been known to represent a capital of one and even two hundred dollars, and so rated in the transfers of real estate. Such trees in the vicinity of New York or Boston will often produce an annual value of \$30 or \$40 each.

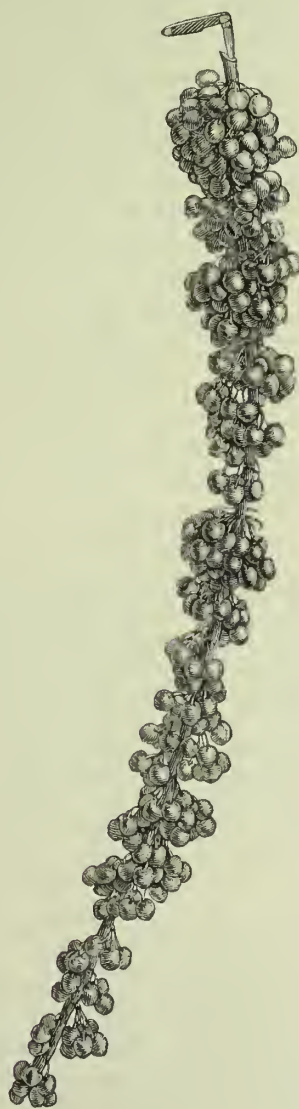
When located in a suitable soil, and properly cared for, the cherry proves a very long lived tree. One of the earliest cherry orchards in the country was planted in 1780, in the "Delaware Highlands," near Wilmington, in the State of Delaware, a locality which seems peculiarly adapted to the growth of this tree, and which answers well to the description above given of the soil best suited to its growth. Most of the cherry trees originally planted in this orchard are still flourishing. Generations of trees from this stock have been planted near to the original locality and have passed away, while the veteran pioneers still flourish and yield annually large crops of fruit.

The disease which most commonly attacks the cherry tree, is a cracking of the bark of its main stem and principal branches, leaving great, unsightly, black ruptures, which affect the growth of the tree and finally destroy it. Very little can be done to save the tree when once this disease has made its appearance.

There has been much discussion with

regard to the best stock on which to graft the cherry. The Mazzard or wild cherry has been largely used in many localities on this coast; but we believe it has now been pretty generally discarded; at least we understand such has been the case in Oregon. The English Morello has also been largely used, especially at the East, and proved not altogether what is desired.

Experience, we believe, is generally in favor of the Mahaleb on which to work the cherry. It seems to be more free from disease than any other stock; makes a heavy growth, somewhat dwarfed; but it ripens the wood well, and stands the frosts better than any other. It never, or at least seldom throws up suckers from the roots, while its low growth is favorable in localities exposed to our strong coast winds. The growth of this tree may be greatly modified by judicious pruning; for while it is naturally inclined to dwarf,



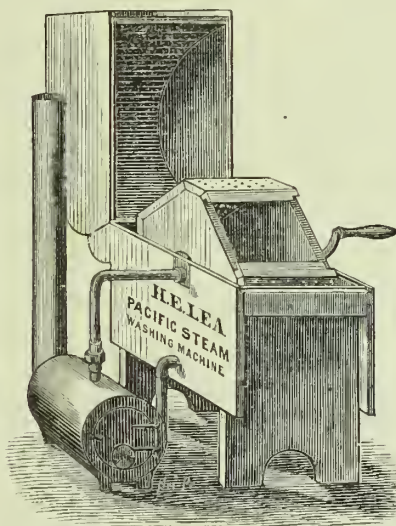
it may be greatly increased in its upward growth by an early and persistent trimming from the roots upward. Notwithstanding the uncertainty of this fruit it is worthy of more attention than has heretofore been paid to its cultivation. The fruit always commands a good price and sells readily. We doubt if a more prolific growth of cherries has ever been noticed, than the specimen we illustrate.

THE CALIFORNIA SILK MANUFACTURING COMPANY.—The *Enterprise*, a new and neatly got up paper, just started in South San Francisco, says that the business of this company is rapidly and largely increasing, and that a large invoice of raw material has just arrived. They desire to engage the services of fifty or sixty girls and boys, and will give permanent employment to skilled hands. It is a matter of public congratulation that this manufacturing enterprise proves remunerative, and we hope that both the culture and manufacture of silk will speedily become among the leading interests of this coast. The company received a diploma and gold medal for its exhibit at the State Fair.

Pacific Steam Washing Machine.

This is something that will interest our lady readers, who, if they do not have the work to do themselves, should nevertheless welcome anything that will assist their servants in doing it. This machine is a valuable invention which consists of a box, inside of which is a revolving slat or perforated drum or cylinder, into which the clothes or other fabrics to be washed are placed.

A combined water boiler and furnace of peculiar construction, stands at a short distance from the box, and pipes communicate between it and the boiler, so as to keep up a constant circulation of hot water and steam between the two, which, in connection with an occasional revolution of the slat, or perforated drum, accomplishes the washing in a short time. The clothes are put into this drum through the proper opening, and the water poured in until it rises up in the box so as to cover the lower part of the drum; this fills the boiler, which keeps the water, after once heating it, at the boiling temperature by a very slight increment of heat. The hot water



is continually passing and repassing through the clothes while the drum is being turned by means of the crank, and they are washed without the necessity of rubbing. This is accomplished by slight friction given during the revolution of the drum and the hot water and steam combined.

This is a late California invention, and its merits can be easily seen by reference to our engraving. It can be set up in a shed, or anywhere, independent of a stove. This machine will cause a great saving in clothes, especially fine fabrics, like laces, etc.; and is warranted to wash without rubbing, if instructions are followed. Two different sizes are made—one for laundries and one for family use. At present they are only made to order, for those making are all engaged. Parties desiring to purchase will be referred to various persons using the machines who have thoroughly tested them.

This invention was patented through our agency by H. E. Lea. Any further information concerning it may be had by addressing the patentee at Half-Moon Bay, San Mateo County, Cal.

THE ALVARADO BEET SUGAR Co. have commenced digging the second crop of beets, and the work of sugar making from the native product is now well under way again. According to the *Alta* the supply of beets will this year reach 800 tons (16 tons to the acre). The juice has been tested and found to yield most satisfactorily. The amount of sugar made last year was only 500,000 pounds. This year it is expected to reach 1,125,000. This will occupy the mill about five months; the balance of the year will be occupied in refining imported sugar.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

(FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.)

FOR THE WEEK ENDING SEPT. 19.

DRIVING-WHEEL OF LOCOMOTIVE ENGINES. Almond F. Cooper, San Francisco, Cal.
NOZZLE FOR OIL-CANS.—Sharron P. Doane, San Francisco, Cal.
WASHING MACHINE.—Henry Elford Lea, Half-Moon Bay, Cal.
BUNG AND BUNG-INSERTER.—Daniel Boone Rickey, San Francisco, Cal.
TRACTION-ENGINE.—Melvin A. Halstead, San Francisco, Cal.

REISSUE.

FURNACE FOR SOLDERING.—Lewis Cutting, San Francisco, Cal., assignor to Francis Cutting, same place. Patent No. 71,141, dated November 19, 1867.

FOR THE WEEK ENDING SEPT. 26.

HORSE-POWER.—Return J. Cheuey, Petaluma, Cal.
ANIMAL TRAP.—John H. Mooney and Geo. A. Lloyd, San Francisco, Cal.
MANUFACTURE OF DENTAL PLATES.—Francis M. Shields, Sacramento, Cal.
LAMP-WICK ADJUSTER.—Levi Bennett Lathrop, San José, Cal.
BUTTER-WORKER.—Peter P. Meredith, Stevensville, Mon. Ter.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

THE CALIFORNIA COTTON GROWER'S ASSOCIATION recently appointed a committee consisting of Messrs. James D. Johnston, Robert Plunkett and James B. Johnston, to visit and examine a tract of land, near Bakersfield, in Kern county, offered to the Association as suitable for their proposed cotton plantation. The committee having visited and examined the same, and reported favorably upon its adaptability for the purpose proposed, the Association will undoubtedly locate there.

Bakersfield is located upon what is known as Kern Island, a rich and well watered region, some 80 miles below Visalia, and about 328 from this city, with which it will soon be put in direct railroad connection. Upwards of 20,000 acres of land will be included in the purchase. The successful issue of the Merced cotton experiment, will do much to give confidence to this new operation.

THE SACRAMENTO BEET SUGAR Co., according to the *Union*, has, after much delay, received their new machine, which will soon be ready for operation. The company expects to realize about 400 tons of beets this year which will be worked at their mill, which, under present auspices, will undoubtedly prove a success. When once the mill is in successful operation, the farmers in the neighborhood will keep it well supplied with raw material.

VEGETABLES.—Mr. A. B. Gilbert, on the American river, at Brighton—about five miles above Sacramento—made an interesting display of large and choice vegetables at the State Fair. Several of his squashes weighed from 100 to 150 pounds. We brought home one of his largest Valparaiso variety. Vegetables have not generally been so large this year as in former seasons; when squashes weighing considerably over 200 pounds, and beets of over 100 pounds have been produced in our State. Mr. Gilbert plants his squashes in his cornfield, and raises them without much tillage—which is the prevailing custom with farmers in his vicinity. In 1870 he raised 200 tons of squashes among 20 acres of corn. Sixty bushels to the acre is a good yield of corn in favorable seasons. Mr. G. exhibited 16 good ears of yellow Dent corn on one hill of 3 stalks. He considers the white Dent corn the best to raise.



A BOY'S REVENGE.

John Ranger walked along on his way home from school one pleasant winter afternoon, feeling rather out of sorts. The reason of the uncomfortable feeling in his mind was this: That morning the boys had proposed building a snow fort on the hill near the school-house. For some days the weather had been very "moderate," as people in the country express it, and the snow had become of just the right consistency to roll into balls, and thus facilitate the building of a snow fort in capital style. John had fallen in with the plan very eagerly. He loved sport of that kind as well as any boy in school. When he played he threw all his energies into the sport, and was consequently a sort of leader in all the amusements incident to school life. And I am glad to say that he studied in very much the same way as he played; he made no half-way work about it, but got his lessons thoroughly and well. Probably his relish for play gave him a keener appetite for his studies. I have often noticed that those boys who play best study best. Not those boys who play most, however, for some boys think of nothing but play.

As the plan was proposed in the morning that they might have time to build the fort in the hour given them at noon to eat their lunch during the forenoon recess, and devote the entire hour to work on the fort, and complete it, if possible, before afternoon school hours began, that he might be ready for use next day. Nearly all the large boys had a hard lesson in arithmetic that forenoon. The teacher had told them that three of the hardest problems must be worked out on their slates and brought for inspection at recitation time. If not correctly done, time must be taken from the hour's recitation to study on them. The boys thought of the snow fort to be built and applied themselves diligently to their lessons. John took his slate and worked away busily. Before recitation came he had conquered all difficulties, and had the knotty problems written down for the teacher's inspection.

Recitation came. He took his slate and started for the class which was forming on the floor. He had got nearly to his place when he saw that the examples he had written down so carefully, were gone. Rubbed out entirely. He stared at the blank slate, with a look of complete bewilderment. He had taken unusual pains with them. When he looked last they were certainly there. Now they were gone. But who had rubbed them out? Some one must have done so. He could not remember that any one had been to his seat, and yet some person had found and taken the opportunity to blot the result of his morning's labor.

"I had the examples on my slate, sir," he said to the teacher. "They are gone. Some one has rubbed them out."

"Who rubbed them out?" asked the teacher in his sharp stern way.

"I don't know, sir," answered John.

"Are you sure you had them worked out correctly?" asked the teacher.

"Yes sir," answered John, flushing up at the doubt implied by the teacher's tone and question.

"Very well, as you are unable to produce them, and can accuse no one of having rubbed them out, you may stay in at noon and work on them."

John was too proud to say a word in protest, unjust as he felt it to be. So he took his seat in silence, resolved to find out, if it were possible, the author of his misfortune, for such he considered it to be, since it obliged him to stay away from the fort-building that was to take place at noon. Stay away he did. It was time for school to begin again before the problems were solved and written out. He could not study much when he thought of the sport the boys were having on the hill. He could hear their merry laughter, and imagine how they were enjoying themselves. He thought, with a bitter feeling in his heart, that, but for some one of them, he might have enjoyed the sport too. He walked home from school that night as I have said, feeling very uncomfortable. He had missed a bit of rare sport for one thing; for another he had found out that some one "owed him a grudge;" and

another thing, was—and John felt this most keenly, perhaps, of the three—that the teacher seemed to think he had shirked his lesson, and considered his story as an excuse to get rid of a little labor.

The next day, as a small boy was passing his seat, John dropped his pencil. The boy picked it up and handed it to him. As he did so, he whispered: "Joe Evans rubbed out your problems yesterday, I saw him do it."

"Don't tell any one," John whispered back, and the boy passed on. A week passed. A dozen times John found opportunities to pay off his score with Joe, but his better nature told him that it would be more noble and manly to overlook the matter entirely.

One holiday, John obtained permission to go to a pond about a mile from home to skate. When he reached the pond, he saw that Joe Evans was there before him. He sat down on the bank, and commenced to strap on his skates. Just as he was fastening the buckle, he heard a cry, and the sound of cracking ice, and looking up, he saw that Joe had broken through a thin spot and was struggling in the water. Quickly as possible he sprang to the rescue, and by means of a long pole which was lying on the ice near the scene of the accident, he succeeded in getting Joe out safely, though greatly frightened.

"Oh, John!" cried Joe, shivering with terror and cold, "If you hadn't have helped me out I should have drowned."

"I guess you would," answered John, quietly.

"And I served you in the way I did!" cried Joe, "I rubbed out your problems the day we built the fort!"

"I knew it," answered John, "I found it out the next day."

"And you never told of it!" Joe felt very insignificant in comparison with John Ranger. This was a new way of revenge.

"Don't say anything more about it," said John, "but hurry home and get some dry clothes on."

John was satisfied with his revenge. It was a great deal better than paying back in the same kind of coin.

How to Keep Cool.

This is an important question just at this time. A cool apartment, in a hot day or night is a real luxury, and one which is attainable much more easily than most people imagine. The secret consists not in letting in cold air—for naturally all do that whenever they have the chance—but in keeping out the hot air. If the air outside a room or house be cooler than the air inside, let it in by all means; but if it be hotter, carefully keep it out.

A door opened from a room which has been closed up since the previous night and from which the sun has been excluded, will often cool an adjoining room, much more than opening a window or an outside door. People are generally apt to make a great mistake in throwing open their windows at all hours of the day, no matter whether the atmosphere outside be cool or scorching.

"Let us have some air," they say, and in comes the treacherous breeze—for even hot air is pleasant while it is gently blowing, taking away perspiration, and thereby cooling the skin; but the apartment is made warmer instead of cooler, and as soon as they move out of the draught they find their room to be more uncomfortable than before.

Let in cool air, keep out hot—that is the only formula to insure the minimum of discomfort. Sitting-rooms may generally be kept cool during the whole day, if the door be only opened for ingress and the windows kept closed and shielded from direct sunshine by a blind. If the atmosphere of a room be impure from any cause, let it be renewed; hot air is less injurious than bad air. If a room be small in comparison with the number of persons engaged in it, free ventilation becomes indispensable.

In a cooking apartment the temperature will probably be higher than outside, hence the free admission even of hot air will be desirable. If persons do not object to sit in a direct draught of air, windows and doors may be opened, a breeze being more refreshing, even though several degrees warmer than still air; but under nearly all other circumstances, rooms should be kept closed as much as possible until after sundown, or till the air outside is cooler than that inside. Let in cool air, keep out hot.

Sprinkling the ground around an open window or door, on the floor of the room itself will greatly reduce the temperature. Another convenient way, in some cases, is to hang up a wet sheet in a room; the evaporation from which absorbs a large amount of heat, and thereby greatly reduces the temperature.

Housework.

People generally think that all women, young or old, whatever direction their taste, or in whatever direction their talent lies, ought to like housework. If a young man has a taste for any particular vocation, he is expected to follow it, and he is awarded great commendation for proficiency in that vocation, no matter how little he may know of anything else. If he takes naturally to journalism, it is not considered his duty to work with hoe and spade all his life. But custom and prejudice have marked out one vocation for a woman, and that is housework, and unless she excels in this, she receives wholesale denunciation. Men are apt to sneer at a woman who is inefficient in household duties, but did man ever think that if his own sex were all to follow any one special business, there might be some who would prove incompetent? For instance, supposing agriculture should be laid down as the only God-allotted sphere for man, shouldn't we be likely to see as great a number of slack farmers as we do new of housekeepers? We expect man to attain in excellence in one direction only, namely, one for which he has a particular taste. Is it not insulting, then, to require that all women, who from time immemorial have had almost no advantages of education compared with men, and many of whom already excel in some departments of learning, should attain the very maximum of excellence in housewifery, for which some have no taste? Of course, we do not deny that it is better to be a good housekeeper than a poor one, but surely no one ought to expect all women to like housekeeping equally well, any more than to expect all men to like farming, tailoring, or any other pursuit, equally well. It will be a great blessing when people learn that women have as noble aspirations as ever beat within the breast of any man. Every far-sighted person can see that there is as much difference in the tastes of women as in those of men, and he who knows it not, understands not human nature aright.—*Christian Union.*

Womanly Modesty.

Man loves the mysterious. A cloudless sky, the full-blown rose, leave him unmoved, but the violet which hides its blushing beauties behind the bush, and the moon when she emerges from beneath a cloud, are to him sources of inspiration and pleasure. Modesty is to merit what shade is to figures in painting—it gives it boldness and prominence. Nothing adds more to female beauty than modesty; it sheds around the countenance a halo of light which is borrowed from virtue. Botanists have given to the rosy hue which tinges the cup of the white rose the name of the "maiden blush." This pure and delicate hue is the only paint Christian virgins should use; it is the richest ornament. A woman without modesty is like a faded flower, which diffuses an unwholesome odor, and which the prudent gardener will throw from him. Her destiny is melancholy, for it terminates in shame and repentance. Beauty passes like the flower of the alba, which blooms and dies in a few hours, but modesty gives the female character charms which supply the place of this transitory freshness of youth.—*Ex.*

HOME INFLUENCE.—There can be no greater blessing than to be born in a cheerful, loving home. It not only insures a happy childhood—if there be good health and a good constitution—but is almost sure to make a virtuous and happy manhood and a fresh, young heart in old age. Every parent's duty is to try to make their children's childhood full of love and proper joyousness; and children are never destitute of them through the poverty, faulty tempers or wrong notions of parents, without a heartache. Not that all the appliances wealth can buy are necessary to the free and happy unfolding of childhood in body or heart—quite otherwise, heaven be thanked! But children must at least have love in the house and fresh air and good play, and some good companionship out of it, otherwise young life runs great danger of withering, or growing stunted or sour, or at best prematurely old and turned inward on itself.

WONDERS OF FASHION.—Wear my hat on my head! Impossible, grandpa, dear! Haven't done such a thing for ages! It's pinned on with my hair!

PARENTS, keep your word sacred to your children; they will notice a broken promise sooner than any one else, and its effect will be as lasting as life.

YOUNG FOLKS' COLUMN.

Diligence vs. Heedlessness.

Two boys were apprenticed in a carpenter's shop. One determined to make himself at thorough workman; the other "didn't care." One read and studied, and got books to help him understand the principles of his trade. He spent his evenings at home reading. The other liked fun best. He often went with other boys to have a "good time."

"Come," he often said to his shopmate, leave your reading; go with us. What's the use of all this reading?"

"If I lose these golden moments," was the boy's answer, "I shall lose what I can never make up."

While the boys were still apprentices, an offer of \$2,000 appeared in the newspapers for the best plan of a State House, to be built in one of the Eastern States. The studious boy saw the advertisement, and determined to try for it. After careful study, he drew out his plans and sent them to the committee. We suppose he did not really expect to gain the prize; but still he thought, "there is nothing like trying." In about a week afterward a gentleman arrived at the carpenter's shop and asked if an architect by the name of Washington Wilberforce lived there.

"No," said the architect, "but I have an apprentice by that name."

"Let's see him," said the gentleman.

The young lad was summoned, and informed that his plan was accepted and that the \$2,000 were his. The gentleman then said the boy must put up the building, and his employer was so proud of his success that he willingly gave him his time and let him go. This studious young carpenter became one of the first architects of the country. He made a fortune, and stands high in the esteem of everybody, while his fellow apprentice can hardly earn food for himself and family by his daily labor.

A Boy Hero.

Anecdotes of heroic boys are always very pleasant reading. The *Swiss Times* relates the following story of a shepherd lad fourteen years of age in the Canton Grisons:

The youthful shepherd was feeding his flock, when a huge bear made its appearance and unceremoniously began to feed himself on the same flock. When he had seized one of the finest sheep the courageous boy began to beat him over the head with his stick in order to drive him away. The infuriated beast turned upon his slender assailant, determined to finish his mission on him. The youth turned and ran, and remembering that there was not far off a gorge nearly 200 feet deep, but so narrow that he might clear it by a vigorous leap, started for it with bruin close at his heels. He reached the edge of the ravine, and, by a desperate bound, landed safely on the other side, while the stupid brute behind him, not noticing his danger, stumbled headlong to the bottom. The boy, descending the gorge, found his enemy disabled by his bruises, and soon dispatched him by beating out his brains with stones.

A FRENCH physician has investigated the effect of smoking on thirty-eight boys, between the ages of nine and fifteen, who were addicted to the habit. Twenty-seven presented distinct symptoms of nicotine poison. In twenty-two there were serious disorders of the circulation, indigestion, dullness of intellect, and a marked appetite for strong drinks; in three there was heart affection; in eight decided deterioration of blood; in twelve there was frequent epistaxis; ten had disturbed sleep, and four had ulceration of the mucous membrane of the mouth.

AMERICAN STUDENTS IN EUROPE.—Not long since young Mr. Pryor, a son of Gen. Roger A. Pryor, carried off one of the honors of Cambridge University, England. To another young American, George Lockhart Rives, has just been awarded the first prize at Trinity College, in the same University, for English declamation and composition.

WHAT BOYS HAVE DONE.—Fisher Ames entered Harvard at the age of 12, and Edward Everett at 13; Bishop Heber translated "Phædrus" in English at 7; Anna Seward repeated from memory the first three books of "Paradise Lost" at 9, and Lord Brougham wrote on philosophy at 18.

DOMESTIC ECONOMY.

The Philosophy of Eating.

The young eat for three reasons: 1st, to grow; 2d, to keep warm; 3d, to repair waste. Hence all food contains one of two elements, and sometimes both, called nitrogen and carbon. The nitrogen makes flesh, sometimes called muscle, and is the same as lean meat. Carbon makes fat, and is that which keeps us warm. Sugar, starch, arrowroot, oil, butter, suet, and lard have no nitrogen, there is nothing in them to make flesh out of; all the nutriment they afford to carbon, is the material for warmth.

Infants and children often get so chilly as to freeze, as it were, unless they had something sweet in their food; hence nature has implanted in them an unspeakable taste for sweet things. The thing the newborn infant needs first and always is warmth. Butter, oils, and starches abound also in the heat-producing elements, but require strong powers of digestion—are applicable to grown persons, and to the old; hence, as we grow old, we like fat meats and butter more.

It is in obedience to these laws that the Almighty beneficence and wisdom has imparted a relish for the oils and fat meats in winter, because extra heat is needed. The Greenlanders; whose country is always covered with ice and snow, consider butter and lard and tallow candles and the rankest oils the greatest luxuries conceivable. But rice, on which many in warm countries chiefly live, is said to contain scarce one per cent. of the fat or heat-producing element, while oils have 96 per cent. of it.

All know buckwheat cakes are relished in winter, but as spring comes on we begin to lose our appetite for them. The cakes themselves contain 54 per cent. of fat as heat-producing elements, and they are made more palatable by spreading butter on them, and molasses, each being almost entirely—96 per cent.—heat-preparing.

But out-door workers eat meat and bread the year round, and never weary of it, because 22 per cent. of such food is flesh-forming, and gives that much power and strength to work.

PARLOR MATCHES.—A good match is still a thing to be desired, and a man who invents the right thing will be a benefactor. What are called parlor-matches, having paraffine or some like substance instead of sulphur to set the stick aflame are dangerous in any case, and rendered more so by carelessness in the manufacture. Such a match dropped on the floor is ready to flash under the tread of a child's foot and set its dress on fire, and is by no means a safe domestic appliance.

But as they are now made the danger is increased. Out of a whole box perhaps only half will ignite. As for the rest, their heads fly off and scatter themselves about the house ready to burn a whole in the carpet, if they do no more damage, when any one steps upon them; to say nothing of the disagreeable crash as of a percussion cap under one's feet.

People had better leave such wares alone and put up with the plain sulphur matches till something better is devised. The death of the young Austrian Princess by treading on the parlor match a few years since may well stand for a warning.

TO STEAM A TURKEY.—Rub pepper and salt inside the turkey, after it has been well dressed and washed; then fill the body with oysters; sew it up carefully; lay the turkey in a large dish, and set it on a steamer, placed over boiling water; cover closely, and steam from two hours to two hours and a half—or till by running a fork into the breast you find it is well done. Then take it up; strain the gravy which will be found in the dish; have an oyster sauce ready, prepared like stewed oysters, and pour this gravy, thickened with a little butter and flour, into the oyster sauce; let it just boil up, and whiten with a little boiling cream; pour this sauce over the steamed turkey, and send to the table hot. Of course, while the turkey is steaming, you will have the oysters all ready for the gravy from the dish, and the cream also boiled, that there may be as little delay as possible after the turkey is cooked.

TO KEEP BUTTER.—A simple mode of keeping butter in warm weather, where ice is not handy, is to invert a common flower-pot over the butter, with some water in the dish in which it is laid. The orifice at the bottom may be corked or not. The porousness of the earthenware will keep the butter cool.

Drying and Cooking Green Corn.

Putting up corn in salt, and then soaking it to get the salt out, in my opinion draws all the sweetness from it. My way is to take the corn when in the right stage, neither too young nor too old, have on the fire a large pot of boiling water, clean the corn of silk, drop it in the pot and parboil till half done; take up, let it drain and cool, then cut, not too close to the cob, but scrape the cob after it is cut, spread on a sheet and dry in the sun. Dry as quick as possible to prevent souring. Let it get thoroughly dry before putting away; put in a thin cotton sack and hang in a cool, dry place. Sun occasionally to keep it from getting musty.

To cook it, take as much as you require, winnow it to get the chaff out, wash through one water, and put in soak in just enough water to cover it; you may put it in soak as early after breakfast as you like; about two hours before dinner, put it on in warm (not hot) water, and boil gently, but steadily, for an hour and a half, or until the corn is tender, and the water nearly all boiled away. Then add a cup of rich milk, a good lump of butter, and salt and pepper to taste, and let it stew in this another half hour so as to have just a good gravy to it when done. When you put it on to boil, turn in the water in which it has soaked. I allow a quart of water to a cup of corn, and let it boil away till nearly dry; but if boiled too fast it will boil away before the corn is done. Stir it once in a while and mind it does not burn after the milk is put in. I hope some of your readers will try my way, for every one tells me that I cook it better than any they ever tasted. Be sure and not have the liquor too thin, and have it rightly seasoned. If there is too much water remaining after it is tender pour some off before you add the milk, but it is better to reduce it by boiling so as to retain the flavor of the corn as much as possible.—*Rural New Yorker.*

PICKLED WALNUTS.—Gather the nuts just before the kernel commences to harden, prick them through and through several times with a coarse needle, put them into a crock, pour over them a rather strong brine, and allow them to remain for three or four days; drain and spread them in the sun until they are dry, and have turned to a dark brown or nearly black color. Put them now into a suitable jar, and pour over them boiling spiced vinegar, using two ounces of mustard seed, a little mace, two ounces of allspice, and two ounces of whole black pepper, to one gallon of vinegar; a few onions may be added if your taste will permit. This pickle may be used any time after making, but is much better for being kept a year. After the pickles are used the vinegar may be boiled and bottled for catsup.

DRYING PEACHES.—Never pare peaches to dry. Let them get mellow enough to be in good eating condition, put them in boiling water for a moment or two, and the skins will come off like a charm. Let them be in the water long enough, but no longer. The gain is at least six-fold—saving of time in removing the skins, great saving of the peach, the part of the peach saved being the best part, less time to stone the peaches, less time to dry them, and better when dried. A whole bushel can be done in a boiler at once, and then the water turned off. Two bushel can be skinned, stoned (halved,) and on the boards, before a quarter of them could have been peeled.

SAVE THIS FOR NEXT WINTER.—To mend rubber shoes, get a piece of pure rubber—an old shoe—vulcanized rubber will not do; cut it into small bits; put it into a bottle, and cover to twice its depth with spirits of turpentine or refined coal tar naphtha—not petroleum naphtha. Stop the bottle and set to one side, shaking it frequently. The rubber will soon dissolve.—Then take the shoe and press the rip or cut close together, and put on the solution with a camel's hair brush. Continue to apply as fast as it dries, until a thorough coating is formed.

TO PRESERVE PEGGED BOOTS AND SHOES.—It is said that if pegged boots are occasionally dressed with petroleum between the soles and upper leather, they will not rip. If the soles of boots and shoes are dressed with petroleum they will resist wet and wear well. The pegs, it is said, are not affected by dryness after being well saturated with the liquid.

Domestic Receipts.

PUMPKIN PIES is a seasonable receipt at this time. If you would have a superior pie;—Stew the pumpkin, then strain—but remember, it must be a fine grained pumpkin—cream is preferable to milk where it can be had; use but small quantity of egg; mace or cinnamon for spice, or both, or none. Our wife prefers none. Roll the pastry very thin. A crust can be dispensed with by sifting a thin layer of corn meal over the oiled pie dish; it forms a sufficient firmness to hold the "filling" when served.

CRAB APPLE JELLY.—If you would have it nice, take four quarts of apples or more, put them in a kettle to boil with enough water to come to the top of the apples, let them boil slowly for three quarters of an hour, then drain off the liquor and add its weight in sugar. Boil fifteen or twenty minutes. Take off the scum as it rises. Put into glasses as soon as it is done.

FRENCH MERINGUE.—One gill of sugar; one quart of milk; one pint of bread crumbs; the yolks of four eggs. Flavor to taste and bake. When cold, spread on top a little raspberry or other jam or jelly; beat the whites of the eggs to a meringue; sprinkle with fine sugar and brown for a moment in the oven.

TO CLEAN KNIVES.—Cut a good-sized, solid, raw potato in two; dip the flat surface in powdered brick-dust, and rub the knife-blades. Stains and rust will disappear.

SAUCE FOR SALADS.—Two hard boiled yolks of eggs, mashed smooth, with a tablespoonful each of cream and olive, add sufficient vinegar to make it pretty sharp.

A NICE OMELET FOR BREAKFAST.—Beat two eggs, yolks and whites together, in a bowl until very light. In a cup put one teaspoonful of corn starch; add slowly a half teaspoonful of milk (new milk is best); when well stirred and smooth, pour this over the eggs, and beat them all well together for a few minutes; a little chopped parsley can be added if wished. Cook as other omelets. In making any kind of omelet salt and pepper should not be added until sent to table; and to have them perfectly light and not tough, the ingredients must be well and quickly beaten with the fork. The quantity given for this omelet is enough for three persons.

Mechanical Hints.

TO DARKEN LIGHT MAHOGANY.—In repairing old furniture it sometimes happens that we cannot match the old wood. In such cases, after the repairs are completed, to prevent the pieces looking like patches, wash them with soap suds, or with water in which quick lime has been dissolved; but be careful not to let either be too strong, or it may make the wood too dark. It is best to use the wash weak at first, and if the wood is not made dark enough repeat.

GUM TRAGACANTH MUCILAGE can be prepared much more quickly and of a more uniform consistency by first rubbing up the powdered gum with a little glycerine before the water is added; as in this way the formation of lumps is entirely avoided.

HOW TO CUT A GLASS BOTTLE OR DECANTER WITHOUT A DIAMOND.—A correspondent sends the following: "Dip a piece of fine twine in cold water, then tie it tightly round the bottle or decanter where you wish to cut it; care should be taken to have the twine quite straight; hold the decanter over a candle keep turning it round until it becomes quite hot; then put it in cold water so that the edge of the twine is just covered; the decanter will be cut level with the twine."

THE QUALITY OF GLUE.—Experience has shown that glue undergoes a chemical change when dried in the air, and its adhesive properties are decidedly deteriorated. To avoid this, says Prof. Wagner, in his report for 1869, some of the manufacturers have introduced a pure liquid glue in close packages, which is said to be superior to the dry article. It is prepared by digesting bones in a peculiarly constructed apparatus, and is sold according to a fixed specific gravity, so that the purchaser does not pay for the water, which, in dry glue sometimes amounts to twelve per cent. The price is also less than for dry glue.

GREEN TOMATO SAUCE.—One quart of green tomatoes cut up fine, a small onion shred fine, a tumbler of good brown sugar, one of vinegar, pepper, salt, allspice, and cloves to taste. Boil to a jam, stirring frequently. It must not seorch. An excellent sauce for fresh meats. Keep in small jars.

LIFE THOUGHTS.

God helps those who help themselves.
Look before you leap; think before you act.

Good manners are sure to procure respect.

The blood is to the flesh what rain is to grass.

POLITENESS is like an air cushion; there may be nothing in it, but it eases our joints wonderfully.

As daylight can be seen through very small holes, so little things illustrate a person's character.

If a man does not make new acquaintances as he advances through life, he will soon find himself left alone. A man should keep his friendship in constant repair.

YOUTHFUL minds, like the pliant wax, are susceptible of the most lasting impressions; and the good or evil bias they then receive is seldom if ever eradicated.

He that speaks, sows; he that hears, reaps; hence we should be guarded as to how we speak, as to what we hear. "He that hath ears to hear, let him hear," but take heed how ye hear.

MEN'S lives should be like the days, more beautiful in the evening; or like the summer, aglow with promise; or like the autumn, rich with the golden sheaves, where the good works and deeds have ripened on the field.

THE very best and the very worst of men are as good, or not as bad as they seem to be. Calculate accordingly in estimating your fellow-men.

If you are to judge of a watch, which you find does not go well, you will certainly examine whether the movement is hindered by any accidental obstructions, before you condemn it. Should not the same rule be observed where it seems to be often neglected? I mean in our judgment of each other.

The Way to Success.

Fortune, fame, success, position are never gained, but by piously, determinedly, bravely sticking, living to a thing till it is fairly accomplished. In short, you must carry a thing through if you want to be anybody or anything. No matter if it does cost you the pleasure, the society, the thousand pearly gratifications of life. No matter for these. Stick to the thing and carry it through. Believe you were made for the matter, and that no one else can do it. Put forth your whole energies. Be awake; electrify yourself; go forth to the task. Only once learn to carry a thing through in all its completeness and proportion, and you will become a hero. You will think better of yourself; others will think better of you. The world in its very heart admires the stern, determined doer. It sees in him its best sight, its brightest object, its richest treasure. Drive right along, then, in whatever you undertake. Consider yourself amply sufficient for the deed. You'll be successful.

GUILT, though it may attain temporal splendor, can never confer real happiness. The evil consequences of crimes long survive their commission, and, like the ghosts of the murdered, forever haunt the steps of the malefactor. The paths of virtue, though very seldom those of worldly greatness, are always those of pleasantness and peace.—*Sir Walter Scott.*

THE INFLUENCE OF ONE ACT.—One pound of gold may be drawn into a wire that would extend around the globe. So one good deed may be felt through all time, and cast its influence into eternity. Though done in the first flush of youth, it may gild the last of a long life, and form the brightest and most glorious spot in it.

TRUE Religion is not a routine of ceremonies, nor yet the essence of any special creed. The religious sentiment is inherent in every nation of the human race. It gives a beauty of its own to all the external forms of creation, and everything that is true and noble in man's soul springs from its source.

It is as unjust to the Bible as it is vexatious to science to endeavor to reduce scientific systems into conformity with the Biblical accounts, or to require the Bible to give us scientific systems.

REASONING against a prejudice is like fighting against a shadow; it exhausts the reason without visibly affecting the prejudice. Argument cannot do the work of instruction more than blows can take the place of sunlight.

California Chemical Paint Company.

TO THE CALIFORNIA CHEMICAL PAINT COMPANY, MANUFACTURERS OF D. R. AVERILL'S PATENT CHEMICAL PAINT.—*Gentlemen:* In compliance with your request I herewith submit for your consideration the following report of analyses of samples of D. R. Averill's Chemical Paint in its natural state, as manufactured by you in San Francisco, corner of 4th and Townsend Sts.; also report on samples of boards, painted with said patent paint, which you submitted for a series of comparative tests to be made with samples of boards painted by the best lead paints that could be procured in this city.

The comparative results of tests on these painted boards by the action of steam heat, sulphurous gases, alcohol, alkalis and acids prove that this Chemical Paint is *unrivalled*. The perusal of the following synopsis of its chemical nature and merits of composition as a paint will prove the above assertion, and that said paint must be considered a new and superior article. This testimony is also corroborated by the able reports on the subject by Professor C. F. Chandler, T. Lang Cassels, B. Hedrick and others to whom I am largely indebted and who unanimously consider the invention of D. R. Averill, one of the most valuable and scientific known to the arts.

It is true that any new invention or bold application of new principles will have its detractors, so it is in this instance; but the fallacious assertions that this paint is only a mixture of benzine and water is too tame for refutation. The reading of the following will convince the most skeptical that D. R. Averill's Chemical Composition as manufactured by you, possesses all the requirements and qualifications of the most perfect oil paints, and that its merits are superior to any other paints.

Use and Application of Water Glass or Silicate of Soda—Averill's Patent Chemical Paints.

Some twenty years ago Dr. Fuch, of Munich, discovered a method of painting which he called stereochromy.

The want of a vehicle more enduring than those formerly in use, and less liable to injure colors employed, led to this discovery. Dr. Fuch's method, which consists in the use of soluble silicates as the fixing material has been applied with considerable success in Europe, by German and French artists of distinction, in England by W. Herbert in the House of Parliament, and in the Fresco painting in the Capitol at Washington, U. S. The adoption of decorative and ornamental painting for the embellishment of public and private buildings has rendered necessary some changes in the older processes of painting, because the requirements are different. Outside and wall paintings are more exposed to destructive influences than that on panel and canvass. The wall itself is more absorbent; the accumulation of dirt, which has from time to time to be removed; the impossibility of giving the same care to its preservation as to objects of smaller size which are movable—render the employment of a different method of painting necessary; and one which will leave it in such a state, that it may, so to speak, take care of itself, and be independent of any further attention.

Silicate or silicious painting seems to supply all that is wanted for *beauty and stability*. It makes the surface of the wall almost impervious to moisture; it fixes the colors firmly to the ground and is easy of application. But the process discovered by Dr. Fuch seems incomplete and open to some grave objections, although the principle on which it rests is sound. The above remarks are not intended to disparage Dr. Fuch's discovery which is in truth one of the most important to art ever made. To this modest and great man all who are interested in the advancement of art owe a deep debt of gratitude for his persevering labors pursued for many years amidst much discouragement and many difficulties. Those who read his treatise on stereochromy cannot but feel delighted with the earnestness and singleness of purpose with which he labored to attain the high end which he set before him. He thus concludes the account of his investigations:—"But before all, I thank God, who graciously allowed his weak and aged servant to finish the preceding investigations so far, that others may build upon the foundation that I have laid." He evidently saw that much remained to be done to perfect the process which he had originated. The honor to have brought this invention to perfection belongs therefore to D. R. Aver-

ill, who, if he has not found the philosopher's stone, has at least produced a paint worthy of a philosopher, and which promises to become the paint of the age. Although five years are not five centuries, chemistry has analyzed even the tooth of time, and can produce within the period of a comparatively brief experiment, results identical with those of the ages of atmospheric corrosion and disintegration.

Samples of Averill's Chemical Paint, have been boiled, heated, frozen and pickled in alkalis and acids; and fumigated with foul gases. It has been boiled and then immediately placed on ice so as to freeze whatever water might have been absorbed, and it has also been heated and then plunged into ice water, but without any sign of cracking or softening, superficially or otherwise. No other paint could stand these tests. The *durability* of Averill's Chemical Paint does not rest alone upon such evidence as this, for it is of the simplest chemical composition. Chemistry testifies to the durability, if not the indestructibility of a material which is *nearly* silica, like flint, and is consequently, unalterable in air; and as this new paint is almost impermeable, it will suffer little if any injury from moisture or frost. We may then, as the lawyers say, "admit" the durability, and if further evidences are necessary, the many applications of this paint made in this State during the last two years is sufficient to show that it is a true and permanent paint for either outside or inside application. Previous to Averill's invention paints were only mechanical mixtures consisting of:

1. *Pigments*—Such as carbonate of lead; oxide of zinc; lamp-black; ochres, raw or burnt, etc., purchased by the painter from the manufacturer. These pigments are generally dry or ground with a small quantity of linseed oil.

2. *Oils*—Generally boiled linseed or poppy oil.

3. *Diluting or Thinning Agent*—Spirits of turpentine, which has been replaced within a few years to a greater or less extent by benzine, a light naphtha derived from petroleum.

4. *Varnishes*—To give a gloss, copal resin or shellac dissolved in turpentine, linseed oil, benzine, alcohol or a mixture of some of them.

5. *Driers or Siccatives*—Metallic oxides or salts either previously boiled in the oil or added by the painter in mixing.

The disadvantage of paints prepared as above described are:

1. That in the ordinary oil paint formed by the grinding of metallic oxides or carbonates, there is no substantial union between the oil and the metallic pigments employed.

2. Paint thus prepared would not keep, it must be used at once; any portion which might be left over would spoil in a few days, the heavy pigment settling to the bottom of the vessel and becoming more or less hard, while the oil becomes thick and soapy or stringy in its consistency. After paint has passed to this condition, it is no longer possible, even by the process of grinding, to reduce it to a uniform and smooth consistency.

3. Ordinary oil paint, when exposed to the action of the atmosphere, after a certain time the pigment becomes loose or detached from the oil, rendering the surface chalky, especially when the pigments contain a large proportion of *barytes*, which, properly speaking, forms no union with the oil.

The Averill Chemical Paint, although an oil paint, is not liable to these objections; it can be prepared ready for use in large quantities at the manufactory, sent to any distance or kept any length of time, without change. Put up in barrels or other convenient packages it may be drawn from time to time for use in convenient quantities and such portion as may not be consumed may be returned to the package for future use. Any person who can handle a brush becomes a painter for the time being:—"Why?"

Because the Averill Chemical Paint is in a permanent *liquid* form, a result obtained by the use of the following chemicals: acetate of lead; sulphate of zinc; hydrate of calcium; and silicate of soda, in addition to the pigments, oxide of zinc, the oleaginous substance, boiled linseed oil, and the thinning or diluting agent, benzine, manufactured specially for this paint, and which cannot be replaced by the ordinary benzine now in common use which destroys rather than benefits any paint. The combination of these chemicals are:—

1. Their action upon the oil, producing with it an "emulsion" or intimate mixture of oil and watery solution from which the oil cannot separate on standing, and from which the pigment cannot sepa-

rate as sediment. The alkaline constituents in this paint, viz.: hydrated calcium, and silica of soda, are not present in sufficient quantity or of the proper concentration to effect a true saponification of the oil, as by analysis the oil is recovered *unchanged* which could not be the fact had it been subjected to saponification.

2. The action of these chemicals upon each other produces more or less of a gelatinous substance which, added to the viscosity of the oleaginous mixture and its peculiar combination, renders the mass homogenous and uniform in consistency, and chemical and mechanical effect. The compound paint resulting in a body so uniform and permanent, that practically, there is no separation possible in its constituent ingredients.

3. The effect of soluble silicate of soda (water glass) in this paint, made of boiled linseed oil and metallic salts of lead and zinc (acetate of zinc and sulphate of lead,) is to render the paint, as already stated, more viscid, or glutinous, a property so important as to prevent the separation of the solid parts of the paint, which happens with paints mixed in the old way.

4. The value of this paint, aside from its *permanency of liquid*, consists in its affording a means of protection to wood and other surfaces against the action of the elements.

5. By the presence of a gelatinous silica and the alkaline ingredients, combined with the oil, this paint forms as has been proved by experience, a coating comparatively fireproof.

6. It is also remarkable for its elasticity, possessing the important and peculiar advantage of not breaking up into chip cracks, consequent upon the oxidation of the oil; its surface therefore remains smooth and uniform after long exposure. The brilliant gloss or polish, due to the manner of its composition, is another feature over ordinary oil paint, in which a gloss can only be obtained through damar or other resinous varnish.

7. It seems strange that year after year persons should go on painting their residences with a material like white lead, which every one knows changes color from the action of sulphur gases which are always present in the atmosphere; whereas the basis of Averill's paint being zinc, there is no liability of discoloration by these gases. It is free from the poisonous effect of lead paint (painter's colic), and by virtue of the peculiarity of its constitution it can be washed with soap or alkaline water with a freedom which would be destructive to ordinary oil paints.

8. The value is not dependent wholly, as in the case of oil paints, upon its hardening on exposure to the atmosphere by the evaporation of its volatile constituents, and the solidification of the oil under the influence of the atmosphere; but it is already in such a condition of firm chemical and mechanical union, that when a surface freshly covered therewith is drenched immediately after it is put on, by a shower of rain, it is not washed or furrowed by the water as is the case with ordinary oil paint.

9. The universal adaptability makes it the most perfect substance known, and this invention is one of the most valuable and scientific known to the arts.

Although the use of soluble water glass in painting was quite suggestive in its new application, still a proper combination was required to avoid the quick drying which results when oxide of zinc is ground with silicate of soda, due also to the state of concentration of said solution of water glass, which is a matter of considerable importance in this paint. In its practical application, it required a combination of oil with other ingredients to form not a mere mechanical mixture; which, on standing for more or less time would separate, and on being applied to wood, metals, or stone would fade or chalk off. Such a combination as to obtain a product meeting all the requirements of a perfect paint; durability, readiness of application, universal adaptability, retention of colors, special qualification of covering and easy to spread, perfect adhesiveness, resistance to water, and preservation of wood and stone, was the aim of the inventor. It has proven a real commercial article which will, from its chemical nature, prove more durable than oil paints. It does not blacken by exposure to sulphurous vapors, dries quickly, resists dampness and the action of water, can be cleansed with boiling water and soap, and preserves the wood from decay rendering it at the same time *incombustible* instead of increasing the danger from fire as is the case with oil paints. I am confident of its ultimately superseding the use of all other paints for external or internal application either on stone, wood or metals.

L. LANSZWEERT, Analytical Chemist.

Academy of Sciences.

Interesting Discussion About the "Dust Shower."

At the meeting of the Academy on Monday evening last Mr. H. G. Hanks exhibited

A Curiosity,

in the shape of a singular concrete substance taken from the stomach of a deer. This substance, which was nearly round and about three inches in diameter, black and very hard, he stated was highly valued by the Mexicans for its traditional medical virtues, and was to be sent there by the owner and sold for charms. The cause and formation of this substance afforded food for considerable discussion.

The Dust Shower.

Our readers will recollect the statement which recently appeared in the public prints to the effect that while, on the morning of September 10th, 1871, the ship *Transito d'Alvarez*, Captain S. P. Lund, was about 85 miles west of Cape Lookout, on the coast of Oregon, with a light breeze blowing, which continued for three days, the sun was obscured for an entire day by a peculiar yellow haze, and during this obscurity it was observed that a light dust was falling. A small quantity was collected, and furnished to Mr. Hanks, upon the examination of which, he made the following report:—

The microscope revealed, in the heavier portion of the dust whitish particles resembling chloride of ammonium, but which were insoluble in water and not acted upon by the mineral acids. Particles of sand were also present, and some dark-colored grains, the nature of which was not evident. But the most interesting discovery was a black, cellular, shining substance of very peculiar appearance. After many comparative tests it was found that fine charcoal most resembled it under the microscope, but upon its being placed on platinum foil and exposed to red heat, it was found to burst into a dense flame, leaving a whitish ash, resembling no coal that could be obtained. In a closed tube it gave off water, followed by a copious distillate of a heavy yellow oil with a strong bituminous smell.

The reading of the report led to a very interesting discussion as to the supposed cause of this dust fall, and many views were expressed. Mr. Hanks stated that at first he was of the opinion that the deposit might be partially formed of smoke from tule fires, but the absence of vegetable charcoal contradicted this. He had also thought this might have been caused from the volcanic eruptions on the Sandwich Islands. The volcanic matter carried above the trade winds was there carried to the northern country.

Prof. Kellogg believes this might have been a *bona fide* dust shower. Showers of rain and of iron are common, and it was known that dust was continually falling at some places.

Dr. Cooper advanced the opinion that the burning asphaltum beds on Whidby's Island, near Vancouver's Island, might have furnished this phenomena. These beds often caught on fire, and the smoke, in extensive clouds, was carried a great ways, and some particles of sand or silica in this case, may have been carried with it.

This theory was considered the more probable of any advanced, the analysis of the dust proving it to be very similar to the particles arising from burning asphaltum.

RAIN.—Humboldt county, the Russian river, and some portions of Sonoma county, have been visited with quite copious showers within the past two weeks. The Humboldt Times thinks considerable injury must have been done to the wheat and hay which was exposed to the weather in that locality. The same rain, according to the Vallejo Chronicle extended southerly as far as the borders of Solano county. A few scattering drops fell in Vallejo.

It is quite time that farmers were getting their grain and hay under cover, as the indications rather point to early rains. Much damage has been done to exposed grain nearly every season, in the past, but it is to be hoped that the scarcity and high price of grain this year will lead to more care in guarding against such unnecessary loss.

THE WINE GROWERS of San Joaquin County will make a much larger quantity of wine this fall than ever before.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Oct. 5th.

WHEAT—The market still continues quiet with moderate demand for export. Sales reported embrace 3,500 bbls. Cal. extra, 2,500 Oregon extra and 2,000 Cal. superfine, at current rates. We quote prices, as follows:

Superfine, \$7.00; 7.25 extra, in sacks, \$7.75; 8.00. Standard Oregon brands, extra, may be quoted \$7.75; 8.00.

WHEAT—The market has shown more animation and at advanced rates, but with no demand for export. Sales embrace 35,000 sacks fair to choice at \$2.55; 2.80. Among the sales are noted 650 sks. coast, \$2.55; 565 sks choice do \$2.65; 400 sks fair, \$2.60; 400 sks good milling \$2.70; 1,000 sks do, \$2.70. The market for fair may be quoted at \$2.60; for choice nominal at \$2.75 to 100 lbs.

The Liverpool market is quoted at 13s— an advance of 3d per cental, during the week.

BARLEY—Has been in fair demand at advanced rates since the 27th ult. Sales have aggregated about 20,000 sacks ordinary coast to choice bay at \$2.05; 2.20. At the close we quote at \$2.05; 2.15.

OATS—Have been in active demand at improved figures since last week. Sales have been 27,000 sacks ordinary coast to choice bay at \$1.90; 2.12½. Quotable at \$1.90; 2.10 to 100 lbs.

CORN—The market is about the same as last week. We quote at \$2.35; 2.45.

CORNMEAL—Is quotable at \$2.75; 3.25, according to quality.

BUCKWHEAT—Last sales quotable at \$3.00.

RYE—Has met with an advance and is quotable at \$2.40; 2.45.

STRAW—Quotable at \$6.50; 7.25 by the cargo.

BRAN—Demand fair at \$30.

MIDDLINGS—For feed are now selling at \$42.50 per ton from mills.

OIL CAKE MEAL—Is quotable at \$40 from the mill.

HAY—There has been a good demand during the past seven days, and prices at the close are firm at \$18; 23 for fair to choice ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½; 15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—Have been in good demand at firm prices at 75; 85c for Mission and 95c; \$1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.62½; 1.75.

HOPS—We quote new at 40; 50c.

HYDES—Market steady with following sales during past week 1,977 Cal. dry at 17; 18c and 1,570 salted at 9; 9½.

WOOL—The receipts are quite heavy with but limited demands and that for choice grades to fill orders. Fall clip good to choice at 26; 28c to 30c. Burry and dirty are neglected. Sales have aggregated about 184,000 lbs.

TALLOW—Market firm at 9½; 10c to 11c.

SEEDS—Flax 3c; Canary, 8c; Alfalfa, 16c, Mustard—California Brown, 6; 7c; Cal. white 6c; 6½.

PROVISIONS—California Bacon 14; 15c; Oregon, 15; 15½; Chicago 13½; 16; Cal. Hams 14½; 15; California Sugar-cured Hams, 17; 18c; Oregon do, 15½; 16c; Eastern do, 19; 21c; California Smoked Beef, 14c.

BEANS—Market inactive, the following are jobbing rates: small White \$2.25; small Butter \$2.50; large do, \$2.50; 2.75; Pink \$2; 2.25; Bayo, \$3.25 to 100 lbs.

ONIONS—Are quite steady, best qualities selling at \$1.00 to 100 lbs.

NUTS—California Almonds, 10; 12½c for hard and 15; 20c for soft shell; Peanuts, 7c; Pecan, 24c to 30c; walnuts, 12c; Hickory, 12c; Brazil, 16c.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8; 9c to 10c; Do 2d quality 7; 8c to 9c; Do 3d do 5; 6c to 7c.

VEAL—Extremes, 7; 9c.

MUTTON—6c to 7c.

LAMB—Has receded from at 8; 9c to 7; 8c to 9c; the latter an extreme figure.

PORK—Undressed is quotable at 5; 5½c. dressed, 8; 8½c.

POULTRY—Live Turkeys, 17; 19c to 20c; Hens and large Roosters, \$6.00; 7.00; Spring Chickens, \$3.50; 4.50; Ducks, tame, \$6.00; 7.00 per doz. wild \$1.00; 3.00; Geese, \$10; 12 to 15 dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 40; 45c; California firkin butter, 27½; 32½c. Eastern firkin 20; 30c.

CHEESE—In fair supply, California new, 10; 14c; Eastern, 13; 14½c.

EGGS—California fresh, 50; 52½c. to 60c.

LARD—California Lard, 11-lb tins, 13; 14c; Oregon in bbls. 14½c; Eastern do. 13½; 14c.

FRUIT.

| | |
|-----------------------------|---------------|
| Tahitian Oranges..... | \$30 00 @ |
| Limes, 1,000..... | 10 00 @ 15 00 |
| Australian Lemons, 100..... | 5 00 @ |
| Sicily do, 100..... | 10 00 @ 14 00 |
| Bananas, bunch..... | 1 50 @ 3 00 |
| Cocoanuts, 100..... | 8 00 @ 10 00 |
| Apples..... | 40 @ 1 50 |
| Pears, cooking..... | 30 @ 75 |
| Bartlett do..... | 2 00 @ |
| Seckel do, box..... | 2 00 @ |
| Peaches, basket..... | 75 @ |

| | |
|----------------------------------|-----------|
| Chico Mountain do, 10..... | 5 @ 10 |
| Quinces, box..... | 50 @ 1 00 |
| Strawberries, 10..... | 7 @ 10 |
| Plums, 10..... | 7 @ 10 |
| Prunes, 10..... | 5 @ 6 |
| Blackberries, 10..... | 9 @ 10 |
| Figs, 10..... | 4 @ 6 |
| Grapes, Sweetwater, 10..... | 2 @ 3 |
| Mission do, 10..... | 1½ @ 2½ |
| Rose of Peru do, 10..... | 3 @ 4 |
| Black Hamburg, do, 10..... | 3 @ 4 |
| Muscat of Alexandria do, 10..... | 4 @ 6 |
| Fisne Tokay do, 10..... | 4 @ 8 |
| Isabella do, 10..... | 4 @ 8 |

DRIED FRUIT.

| | |
|--------------------|---------|
| Apples, 10..... | 6 @ 9 |
| Pears, 10..... | 8 @ 10 |
| Peaches, 10..... | 9 @ 10½ |
| Apricots, 10..... | 9 @ 9½ |
| Plums, 10..... | 6 @ 8 |
| Pitted do, 10..... | 18 @ 22 |

VEGETABLES.

| | |
|--------------------------------|-------------|
| Cabbage, 10..... | ¾ @ 1½ |
| Garlic, 10..... | 1½ @ — |
| String Beans, 10..... | — @ — |
| Summer Squash, 10..... | 1 00 @ — |
| Tomatoes, River, box..... | 35 @ — |
| Bay do, box..... | 75 @ 1 00 |
| Cucumbers, box..... | 1 00 @ — |
| Green Corn, doz..... | 12 @ 20 |
| Watermelons, each..... | 3 @ 6 |
| Cantaloupes, doz..... | 50 @ 2 0 |
| Lima Beans, 10..... | 2½ @ 3 |
| Marrowfat Squash, per ton..... | 5 00 @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—We note a fair demand at unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—Good demand for export—local demand more active. Cargoes of Oregon sell as follows: Rough, \$13; Dressed, \$23; Spruce, \$16.50. The following cargo rates for Redwood Lumber are maintained by the R. W. Lumber Association:

| | Wholesale. | Refuse. |
|----------------------------------|------------|---------|
| Rough..... | \$15 00 | \$11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, beaded..... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Siding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | — |
| Picket, rough, pointed..... | 16 00 | — |
| Picket, dressed..... | 22 50 | — |

San Francisco Retail Market Rates.

FRIDAY, October 6, 1871.

MISCELLANEOUS.

| | | | |
|---------------------------|---------|--------------------------|----------|
| Butter, Cal. fr. 55..... | 65 @ | Wool Skins, new..... | 67 @ |
| Pickled, Cal. fr. 55..... | 50 @ | Second-hand do..... | 67 @ 70 |
| do Oregon, 100..... | 25 @ | Wheat-sheaf, 22½..... | 12 @ 12½ |
| Honey, 10..... | 25 @ 30 | Potato G'y Bags..... | 22 @ |
| Cheese, 10..... | 20 @ 25 | Second-hand do..... | 15 @ |
| Eggs, per doz..... | 55 @ 60 | Deer Skins, w'l on..... | 15 @ 22 |
| Lard, 10..... | 18 @ 20 | Sheep skins, w'l on..... | 50 @ 75 |
| Sugar, cr. 6½..... | 10 @ 13 | Sheep skins, plain..... | 25 @ 50 |
| Brown do, 10..... | 10 @ 13 | Goat skins, each..... | 25 @ 50 |
| Beet, do..... | 1 00 @ | Dry Cal. Hides..... | 17 @ 17½ |
| Sugar, Map. 10..... | 25 @ 30 | Salted do..... | 4 @ 8 |
| Plums, dried, 10..... | 15 @ 25 | Dry Mex. Hides..... | 16 @ |
| Peaches, dried, 10..... | 15 @ | Salted do..... | 9½ @ |

PRODUCE, ETC.

| | | | |
|---------------------------|---------|--------------------|--------------|
| Codfish, dry, 10..... | 8 @ 10 | Barley, cwt..... | 2 00 @ |
| Flour, ex. 10..... | 8 @ 10 | Beans, cwt..... | 2 50 @ 3 25 |
| Superfine, 10..... | 67 @ | Potatoes, cwt..... | 75 @ 12½ |
| Con Meal, 100..... | 25 @ 30 | Hay, per ton..... | 20 @ 25 |
| Wheat, 100 lbs. 2 75..... | 3 00 @ | Lave Oak Wood..... | 9 00 @ 10 00 |
| Oats, 100 lbs. 1 90..... | 2 10 @ | Tallow..... | 9½ @ 10 |

FRUITS, VEGETABLES, ETC.

| | | | |
|--------------------------|-------------|------------------------|----------|
| Pine Apples, 10..... | 25 @ 30 | Celery, doz..... | 75 @ 100 |
| Bananas, 10..... | 3 00 @ 5 00 | Cress, doz..... | 20 @ 25 |
| Cal. Walnuts, 10..... | 20 @ | Dried Herbs, h'b..... | 25 @ 50 |
| Cranberries, 10..... | 75 @ 100 | Egg Plant..... | 6 @ 12 |
| Cranberries, 10..... | 75 @ 100 | Garlic..... | 5 @ 8 |
| Apples, Early, 10..... | 50 @ 60 | Green Peas..... | 25 @ 37½ |
| Red Astran, 10..... | 50 @ 60 | Sugar Peas..... | 25 @ 6 |
| Red June, 10..... | 50 @ 60 | Cucumbers, doz..... | 15 @ 25 |
| Pears, table, 10..... | 75 @ 100 | Lettuce, doz..... | 12 @ 25 |
| Plums, Cherry, 10..... | 6 @ 8 | Mushrooms..... | 25 @ 50 |
| June, 10..... | 10 @ 12½ | Horseshoe..... | 25 @ 20 |
| Apricots, 10..... | 3 @ 4 | Okra, dried..... | 50 @ 50 |
| Moopark, 10..... | 3 @ 5 | Okra, green..... | 12½ @ 4 |
| White, 10..... | 2½ @ 4 | Pumpkins..... | 3 @ 4 |
| Raspberries, 10..... | 18 @ 20 | Parsnips, bunches..... | 25 @ 25 |
| Strawberries, 10..... | 8 @ | Parsley..... | 25 @ 25 |
| Blackberries, 10..... | 8 @ | Pickles, gal..... | 50 @ 75 |
| Oranges, cwt..... | 30 @ | Rhubarb, 10..... | 10 @ 12 |
| Lemons, cwt..... | 50 @ 60 | Radishes, t. huns..... | 25 @ |
| Limes, cwt..... | 25 @ 30 | Green Peppers..... | 25 @ |
| Figs, dried, 10..... | 25 @ 37½ | Summer Squash..... | 6 @ 25 |
| Asparagus, 10..... | 25 @ 30 | Marrowfat do..... | 6 @ 3 |
| Artichokes, doz..... | 50 @ 75 | Hubbard do..... | 6 @ 4 |
| Brussels sprouts..... | 20 @ 25 | String Beans, 10..... | 6 @ 8 |
| Beets, doz..... | 20 @ 25 | Red Lima, sh..... | 6 @ 8 |
| Potatoes, 10..... | 2 @ 3 | Spunge, 10..... | 25 @ 50 |
| Potatoes, sweet, 10..... | 50 @ 60 | Salsify, bunch..... | 12 @ 25 |
| Broccoli, doz..... | 50 @ 60 | Turnips, doz..... | 25 @ 25 |
| Cauliflower, 10..... | 1 00 @ | New Tomatoes..... | 5 @ |
| Cabbage, doz..... | 75 @ 100 | | |
| Carrots, doz..... | 10 @ 25 | | |

POULTRY, GAME, MEATS, ETC.

| | | | |
|--------------------------|-------------|--------------------------|-----------|
| Chickens, apiece..... | 50 @ 75 | Bacon, Cal. 10..... | 18 @ 20 |
| Turkeys, 10..... | 25 @ | Oregon do..... | 18 @ 20 |
| Ducks, wild, p..... | 50 @ 100 | Hams, Cal. 10..... | 18 @ 20 |
| Tame do..... | 50 @ 100 | Hams, Oregon..... | 25 @ |
| Teal, doz..... | 3 00 @ | Choice D'field..... | 25 @ |
| Geese, wild, each..... | 25 @ | Whittaker's..... | 25 @ |
| Tame, pair..... | 2 50 @ 3 00 | Johnson's..... | 25 @ |
| From Chicago..... | 75 @ | Salmon, 10..... | 15 @ 12 |
| Hens, each..... | 75 @ | Smoked, new..... | 10 @ 12 |
| Snipe, doz..... | 25 @ 50 | Pickled..... | 6 @ 8 |
| English, doz..... | 25 @ | Rock Cod, 10..... | 10 @ 12 |
| Venison, 10..... | 12½ @ 18 | Perch, s. water, 10..... | 8 @ 10 |
| Quails, doz..... | 25 @ 30 | Fresh water, 10..... | 12½ @ 15 |
| Pigeons, dom. doz..... | 60 @ 50 | Lake Big Trout..... | 6 @ 8 |
| Wild do..... | 50 @ 60 | Smelt, 10..... | 6 @ 8 |
| Hares, each..... | 40 @ 50 | Herring, fresh..... | 6 @ 8 |
| Rabbits, tame..... | 50 @ 100 | Sm'kd, per 100..... | 60 @ 100 |
| Wild do, doz..... | 75 @ 100 | Tomcod, 10..... | 25 @ 38 |
| Squirrel, pair..... | 25 @ 38 | Terapin, doz..... | 30 @ 40 |
| Beef, tend, 10..... | 25 @ | Mackerel, p.k. ea..... | 25 @ |
| Sirloin and rib..... | 18 @ 20 | Fresh do..... | 25 @ |
| Smoked, 10..... | 15 @ 18 | Sea Bass, 10..... | 12½ @ |
| Pork, rib, etc., 10..... | 12½ @ 15 | Halibut..... | 50 @ |
| Chops, doz..... | 12 @ 15 | Sturgeon, 10..... | 4 @ 5 |
| Veal, 10..... | 15 @ 20 | Oysters, 10..... | 1 00 @ 25 |
| Mutton chops..... | 12½ @ 15 | Cheese, doz..... | 20 @ |
| Leg, 10..... | 12½ @ 15 | Turbot..... | 50 @ 62 |
| Lamb, 10..... | 15 @ | Crabs, doz..... | 60 @ |
| Tongues, beef, ea..... | 15 @ | Soft Shell..... | 37 @ 50 |
| Tongues, pig, ea..... | 15 @ | Shrimps..... | 10 @ 12 |
| | | Prawns..... | 25 @ 50 |

* Per lb. † Per dozen. ‡ Per gallon.

Go to the Best.—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS.

M. K. LAUDEN, President, San Francisco, Cal.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|--|---------------|
| SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good. | |
| SAN FRANCISCO, Thursday, October 5. | |
| City Tanned Leather, 10..... | 26 @ 29 |
| Santa Cruz Leather, 10..... | 26 @ 29 |
| Country Leather, 10..... | 25 @ 28 |
| French stock comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm. | |
| California kip and calf skins are still scarce and high. | |
| Jodot, 8 Kil, per doz..... | \$60 00 @ |
| Jodot, 11 to 15 Kil, per doz..... | 80 00 @ 95 00 |
| Jodot, second choice, 11 to 15 Kil, per doz..... | 80 00 @ 80 00 |
| Lemon, 10 to 15 Kil, per doz..... | 85 00 @ |
| Levin, 12 and 13 Kil, per doz..... | 85 00 @ 70 00 |
| Cornellian, 16 Kil, per doz..... | 72 00 @ |
| Cornellian, 12 to 14 Kil, per doz..... | 65 00 @ 70 00 |
| Ogerau Calf, 10 doz..... | 54 00 @ |
| Mercier Calf, 16 Kil, per doz..... | 65 00 @ |
| Robert Calf, 7 and 8 Kil..... | 35 00 @ 40 00 |
| Common French Calf Skins, 10 doz..... | 35 00 @ 75 00 |
| French Kips, 10..... | 1 00 @ 1 30 |
| California Kip, 10 doz..... | 65 00 @ 80 00 |
| Eastern Waxed Stuffed Calf, 10..... | 80 @ 1 25 |
| Eastern Bench Stuffed Calf, 10..... | 1 10 @ 1 25 |
| Eastern Calf for Backs, 10..... | 1 15 @ 1 25 |
| Sheep Roams for Topping, all colors, 10 doz..... | 8 00 @ 13 00 |
| Sheep Roams for Linings, 10 doz..... | 5 50 @ 10 50 |
| California Russett Sheep Linings..... | 1 75 @ 5 50 |
| Best Jodot Calf Boot Legs, 10 pair..... | 5 25 @ |
| Good French Calf Boot Legs, 10 pair..... | 5 50 @ 5 00 |
| French Calf Boot Legs, 10 pair..... | 4 00 @ |
| Harness Leather, 10..... | 30 @ 37½ |
| Fair Bridle Leather, 10 doz..... | 48 00 @ 72 00 |
| Skirting Leather, 10..... | 34 @ 37½ |
| Walt Leather, 10 doz..... | 30 @ 50 00 |
| Buff Leather, 10 foot..... | 17 @ 21 |
| Wax Side Leather, 10 foot..... | 18 @ 29 |

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The heading is beautiful and appropriate.—*[Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press*.

If the first number is to be taken as an earnest of what will follow, each week, we can advise to all interested in agricultural pursuits, subscribe.—*[Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—*[Eureka & P.*

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It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—*[Yolo Mail.*

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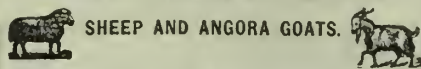
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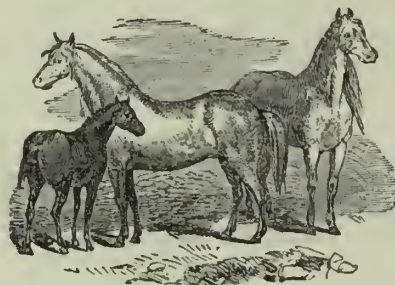
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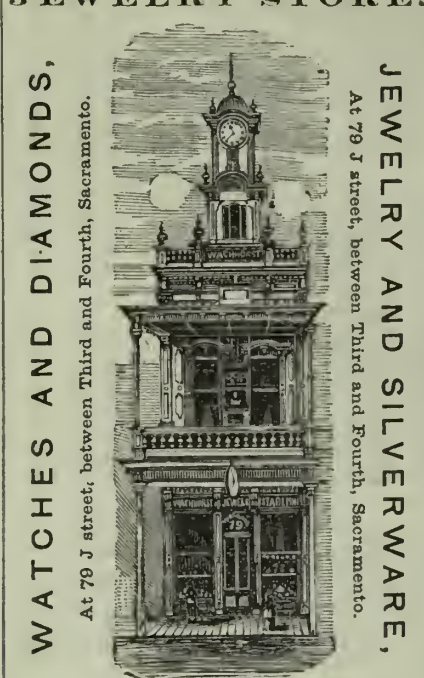
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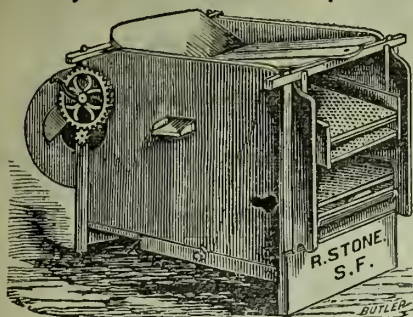
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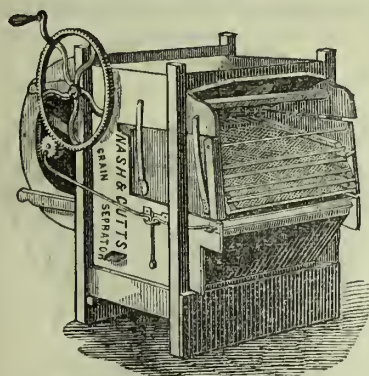
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Under a Burning Sun, where Bilious affections and Fevers of various descriptions so generally prevail,

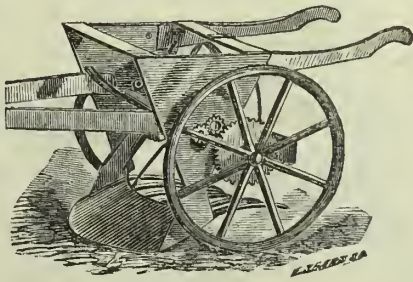
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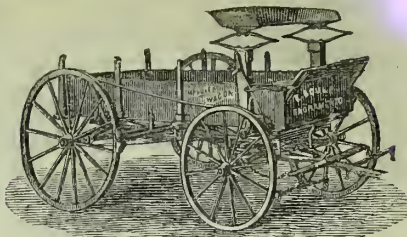
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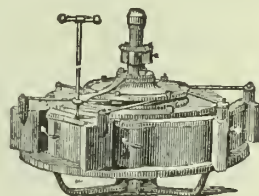
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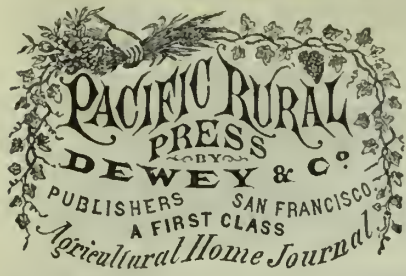
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A well-constructed model is generally first needed, if the invention can well be illustrated. It must not exceed 12 inches in length or height. When practicable, a smaller model is even more desirable. Paint or engrave the name of the article, and the name of the inventor, and his address upon it.

Send the model (by express or other reliable conveyance), plainly addressed, to "DEWEY & CO., SCIENTIFIC PRESS OFFICE SAN FRANCISCO." At the same time, send a full description, embodying all the ideas and claims of the inventor respecting the improvement, describing the various parts and their operations.

Also send \$15 currency, amount of first fee of the Government. The case will be placed on our regular file, the drawings executed, and the documents made up, and soon sent to the inventor for signing.

As soon as signed and returned to us with the fees then due us, it will be sent straightway to the Patent Office at Washington.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separated ingredients, sufficient to make the experiment (unless they are of a common and well-known character), and also of the manufactured article itself, must be furnished, with full description of the entire preparation.

For Processes, frequently no model or drawings are necessary. In such case, the applicant has only to send us an exact description, and what is desirable to claim.

For designs no models are necessary. Duplicate drawings are required, and the specifications and other papers should be made up with care and accuracy. In some instances for design patents two photographs, with the negative, answer well instead of drawings.

We do not require the personal attendance of the inventor, unless the invention is one of great complication. Usually the business can be well done by correspondence.

For filing a caveat, which affords the inventor protection for one year, we only require a rough sketch, and a clear description of the invention.

It will cost inventors less to have their business thoroughly and speedily done through our agency than to patronize less able and responsible agents.

For further information, send a stamp for our illustrated circular, containing a digest of PATENT LAWS 112 illustrated mechanical movements and HINTS and INSTRUCTIONS regarding the RIGHTS and PRIVILEGES of inventors and patentees, which will be furnished post paid. Also a copy of NEW PATENT LAWS of 1870.

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A young man to plant a vineyard of thirty to fifty acres, and engage in wine making. An advantageous interest would be given to a man who would stay in one place and make himself a home. Some capital and experience furnished. This is a rare opportunity to one who is not afraid of work. Inquire at this office, or address EMERY TOWNSEND, Lakeport, Lake County, Cal. N. B.—A German or Swiss preferred. sc9 1m

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Farm and Stock Ranch for Sale—a Rare Chance. The undersigned offers for sale his ranch, situated within two miles of the town of Sanel, Mendocino county, containing 1,800 acres; 200 acres good farming land, 150 acres Russian River bottom, and 50 acres good upland, the remainder being good pasture land, and is well watered by Russian River. The whole is inclosed. I offer the same at the low price of \$6,000; would exchange for a good grape farm in Sonoma or Napa counties. Apply to JOSEPH E. CUNNINGHAM, Sanel, Mendocino county, Cal. 12v2-1m

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TWO YOUNG

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The lowest prices asked for dressed or whole stone. Enquire on the premises, three miles north of Brooklyn, Alameda county, or of A. T. DEWEY, at the SCIENTIFIC PRESS OFFICE, San Francisco. 14v2-1am r

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Pescadero—Fifty-two miles from San Francisco—is one of the most delightful places of resort on the Pacific Coast. Its Beautiful Drives, Beaches of Moss, Pebbles and Shells, Forests, Sparkling Streams, Hunting and Fishing, cannot be surpassed.

THE SWANTON HOUSE, at this place, is all the Tourist could ask, for comfort and convenience; C. W. Swanton, Proprietor.

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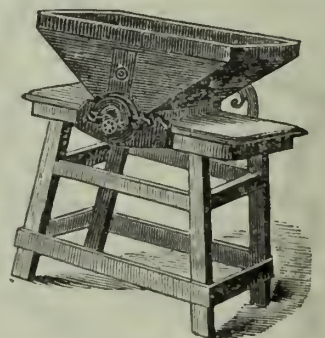
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FOR GOPHERS, SQUIRELS, RATS, COYOTES,
and other "Varmints."

This Trap, as may be seen, is of simple construction, and not likely to get out of order, and very durable.

It is Very Efficient

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Orange Trees! Orange Trees!!

I now offer to Planters and Dealers a large and splendid stock of ORANGE, LEMON, LIME, and ENGLISH WALNUT TREES. Also, a limited amount of

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Rural Cottage.

The design for a rural cottage which we herewith present, affords an attractive outside appearance and is not over ornamented. The rooms are light and pleasant, well connected, easy of communication and convenient in their relative positions. The dining room, which is large and pleasant, may also be used for a sitting room. It is connected with the kitchen by an alcove, showing through an arched opening. The chamber plan supplies four large bed rooms, a bath room and three closets. The house can be built either of wood, brick or stone, but in any case, all ornamentation beyond what is strictly characteristic and suggestive of country simplicity, has no place upon it. If built of wood, in a plain substantial manner, it could be erected in most parts of the country, where lumber is convenient, for about \$3,000.

Ground Plan.

D R, dining room, eighteen feet nine inches by fifteen feet; parlor, eighteen feet nine inches by fourteen feet six inches; library, fifteen feet by fourteen feet six inches; kitchen, twelve feet six inches by thirteen feet six inches; wash room, twelve by eight feet; hall, six feet five inches wide.

Second Story.

A, bed room, fourteen feet five inches by eleven feet nine inches; B, chamber, eighteen feet nine inches by fifteen feet; C C, halls; D, bath room, nine feet six inches by eleven feet; E, bed room, fourteen feet six inches by eleven feet; F, servants' bed room, twelve feet six inches by fourteen feet six inches; G, passage and closet, three feet six inches in width. We have re-produced this design from the *Colman's Rural World*.

HOW THE HUMBUG PAYS.—A certain Rev. advertises to send free, out of pure kindness, a valuable receipt for the cure of consumption to all who forward to his address a postage stamp. This looks fair, but the readers of a thousand journals wonder how he can afford to pay, year after year, for so many advertisements. The mystery is unravelled when a cunning circular is returned with the receipt, saying the only safety in procuring the wonderful South American remedy is by sending \$3.50 to the "grateful" scoundrel "snatched from the borders of the grave" who employs the title of Rev. to steal more successfully from "gulls" who are silly enough to notice advertisements that promise to give "something for nothing." This is our answer to those who wish to make our advertising columns accessory to their despicable schemes.

SHEEP-KILLING by vampires is reported in Wisconsin. From a description of the carcasses of the sheep, a shepherd in our State is led to believe that they are killed, as by our California lions and wild cats, which suck the blood from under the ear of the animal, leaving scarcely any perceptible marks.

The Virginia City markets are well supplied with California fruits.

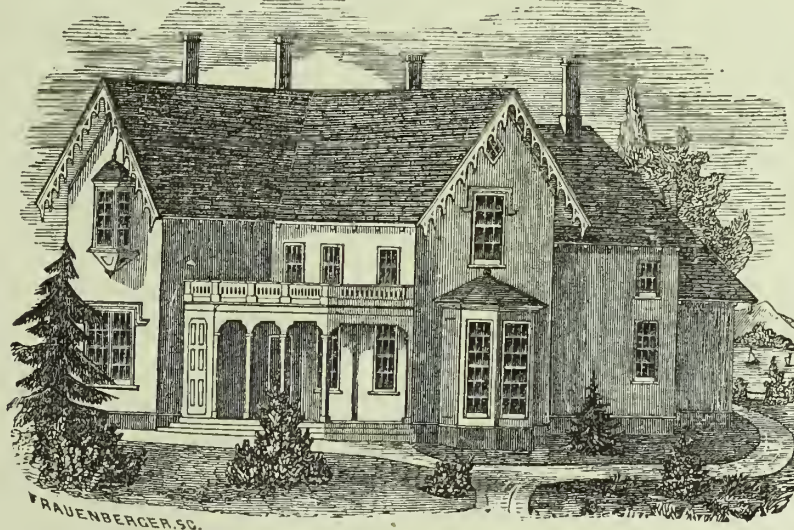
Silk Culture in California.

At the late State Fair, Nevada county made the best showing in silk raising.

Mr. Edward Muller, of Nevada City, was present in person, and exhibited the worms feeding on the mulberry leaves, some spinning their cocoons among the leaves of oak shrubs, and other interesting

Miss Ruth L. Rolfe, and Mrs. H. L. Bradley, of Nevada, and Horace Hall, of Blue Flat, near Nevada, all exhibited choice specimens of cocoons through Mr. Muller.

Mr. Webber, among others in Nevada county, not represented at the Fair, we learn has a plantation, near Nevada City, of 5,000 mulberry trees, three years old, and 5,000 one and two years old, which

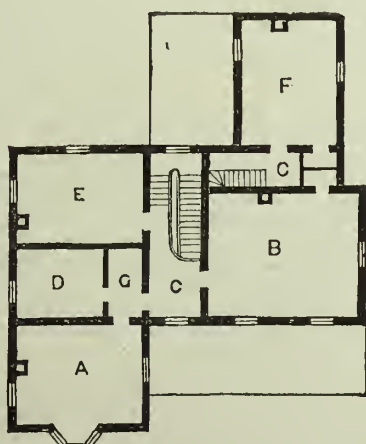


RURAL COTTAGE—PERSPECTIVE VIEW.

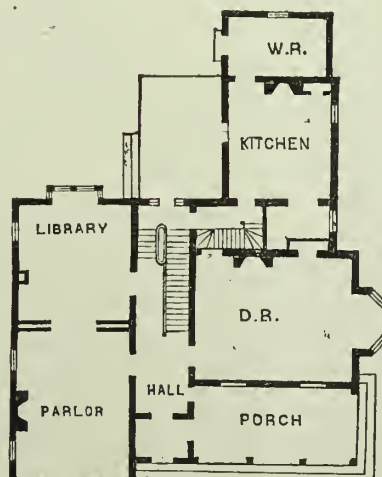
features of the business. He had also samples of different kinds of cocoons and eggs. He has been in the business for five years, in one year of which he raised 45 ounces of eggs, or about 150,000, prin-

show a remarkably thrifty growth.

Mrs. L. A. Sellers, who has had three years' experience on her husband's ranch, nine miles southeasterly from Antioch, Contra Costa country, made a very credi-



SECOND FLOOR.



GROUND PLAN.

cipally for sale. He expects a reeling machine from Europe before spring, and believes that the establishment of reeling places in each silk district will be the most practical way of having the silk prepared for market in this country.

Mr. Muller had in charge some fine samples of cocoons exhibited by Chas. L. Dimon, whose Silken Grove Ranch is located midway between Grass Valley and Nevada City. Mrs. Dimon principally manages their culture. He has from 8,000 to 10,000 white mulberry (*Morus Alba*) trees. This seems to be the kind of tree cultivated almost exclusively by the exhibitors with whom we talked at the Fair.

table and interesting display, including five varieties of cocoons, several nests of cocoons, and samples of silk crudely reeled by herself. They consider the climate and soil quite favorable in their locality, and have constructed a cocoonery and raised 5,000 mulberry trees on about eight acres of land. Mr. Seller's principal business is farming. The silkworms have not thriven as well with them this season, and we believe not so well generally throughout the State, as during less dry seasons.

The most complete display in the silk department of the fair was made by Joseph Neuman, of the Mission of San José, who represented the production of silk in all

stages. The egg, the miller, the worm of various ages feeding, the cocoon, the raw silk in skein, and for sewing and embroidery, in the gum, and without, colored and uncolored, besides an assortment of ribbons, scarfs, shawls, dress goods, red, white and blue flags, stockings, gloves, pocket handkerchiefs, etc., all of California manufacture.

Mr. Neuman is the pioneer manufacturer of silk and has persevered with much credit in showing what fine fabrics California may yet become famous for manufacturing out of her own products. He has invented an improved machine called a silk gauging reel, which rings a bell when one hundred meters of silk, or one hundred and nine English yards of silk are reeled on, which he is confident will make silk reeling more practicable and profitable here. We should be pleased if the parties briefly mentioned above, as well as others engaged in this important industry, would send us further information concerning their cultivation.

California Fruit East.

We are beginning to receive reports of fruit sent by our State Agricultural Society to the Eastern State Fairs. The Secretary of the Michigan State Pomological Society writes as follows: "The California collection of fruits arrived in good season and considering the distance, in admirable condition, and was finer in appearance, by far, than any other State representation at our Fair."

The Secretary of the Kentucky Horticultural Society, at Louisville, says: "The fruit arrived in a fair condition. The grapes were the admiration of all, especially the flame Tokay. We have nothing like them in Kentucky except those that are grown under glass—which of course is quite another thing."

We felt almost ashamed of ourselves when we opened your contributions. This has been a very bad year for fruit in this part of the country. A very severe frost in the early part of the season nearly destroyed everything, especially the grapes. We hope however, to pay up for this next year and send something that will be really worthy."

BEE-KEEPERS' ASSOCIATION.—There has for some time been two distinct Bee-Keepers' Associations in the United States; the North American and the American Associations, both having their headquarters at the West. These two Associations will be merged into one at a general gathering which will be held at Cleveland, Ohio, on Dec. 6th, 7th and 8th, 1871. A grand rally of Bee-Keepers is expected on that occasion. There are two publications in the United States devoted especially to the bee-keeping interest. The *National Bee Journal*, published at Indianapolis, Mich., and the *Bee-Keepers' Journal*, published at 14 Murray street, New York.

SALMON, from the Sacramento river, are now being shipped East in large numbers, where the luxury is appreciated. Californians scarcely know the value of such common delicacies.

MECHANICAL PROGRESS.

Destructive Effect of Salt on Axles.

The London papers give accounts of several accidents occasioned by the fracture of the axles of salt cars. It appears that between the sound portion remaining and the outside of the fractured axle the surfaces were quite smooth, presenting the appearance of having been severed by a sharp instrument. This peculiar effect is thought to have been caused by the gradual action of the brine on the metal, the heat at the boss favoring the evolution of chlorine from the brine, and its then combining with the iron to form a soluble chloride of iron. From the position of the defect it was not discoverable by any ordinary inspection; and, whatever may be the scientific explanation of the peculiar destructive action which thus goes on in the axles of salt cars, the fact must be regarded as a very serious one—especially in view of the statement made that on one railway alone, no less than seven axles of salt cars were broken while running, in a period of less than three months, and this out of a total number of about five hundred wagons, showing an enormously large proportion, as compared with the fracture of cars of any other description of rolling stock. To diminish this liability, the plan has been proposed that, in addition to requiring such cars to be provided with well-constructed axles of good quality, it also be insisted that the date of their commencing to run be stamped upon the axles, and that a reasonable number of years be prescribed as the maximum of their being used.

A NEW AND VALUABLE PAVEMENT.—Prof. Wurtz, of Mass., recently introduced to the scientific world a new asphaltic pavement, under the name of Grahameite. It was subjected to severe tests in the presence of eminent engineers. The experiments proved that it would stand a pressure twenty times greater than that required to crush granite. It was exceedingly tough and slightly plastic. From recommendations made by gentlemen who witnessed these experiments, a pavement of about two hundred feet in length was ordered to be laid on the Battery, from the foot of Whitehall street to a point opposite the wharf, where heavy stones used in building the Post Office are unloaded. The pavement was finished several weeks ago. Since then enormous loads of stone have been drawn over the pavement, during the most trying part of the year. The more it is used the harder and smoother it becomes. It is gray in color, and clean and pleasant to the eye. It can be made to stand a heat of 500 degrees without softening. In the sunshine the pavement was so hot that it was painful to hold the palm of the hand on it. Hard blows were struck with a heavy hammer in the face of the composition. It was like pounding a well-seasoned slab of sole leather with a broad-headed hammer. It is claimed that this pavement is the cheapest and most durable ever invented. Thousands of yards can be laid in a day.

THE FUTURE IRON CENTER OF AMERICA.—Dr. Gustav Kluppel, an eminent German metallurgist, has been examining the iron works of America and reporting his observations in a German technical journal. He ridicules the anxiety of American ironmasters for pure coal, feeling confident that the ordinary bituminous coal of the West as well as the East would be available for use in blast furnaces if properly coked. Of the natural advantages of St. Louis and vicinity for iron manufactories, he says:—"As the railroad bridge over the Mississippi, opposite St. Louis, will be completed within a year, there is nothing in the way of the iron manufacture, including the blast furnaces, settling near East St. Louis in the immediate vicinity of the coal mines. Here both coal and ore are to be had cheaper than in Westphalia, for instance; and as St. Louis, in relation to England, possesses a natural protective tariff of \$8 to \$9 per ton, (\$4 to \$5 more than the Atlantic States), it may well be affirmed that here is the soundest foundation in the country for all branches of the iron manufacture, from pig iron to Bessemer steel.

The ivory keys to pianos or melodeons, when yellow, may be rendered white again by sponging them with diluted sulphurous acid and exposed to the sun.

A New Partition Wall.

A new kind of wall is coming into use in England, the advantages claimed for which are the very important ones of non-absorbency of moisture, non-conduction of heat, economy of space, a washable surface, and, withal, cheapness. Over a framework of strong cross-wires, of about one-eighth of an inch in thickness, there is woven, by a powerful pressure, fibrous matter, which is saturated with a solution that renders it fire-proof. It is then subjected to a very powerful pressure. A coating of light Scott's cement is then put upon it for inside facing, and of Portland cement for outside facing. By this means surfaces are made impermeable to moisture, smooth and easily washed with water, thus saving the expense of repeated lime washings. It is formed into slabs in iron frames, which are put together and closely and securely fastened with bolts. The slabs are from one and half inch to four inches thick. They serve as superior paneling for dividing walls and partitions. Where space is of importance, it has the advantage, perhaps, over concrete walling, in enabling a wall to be made of not more than one and a half inch or two inches in thickness, and yet its quality is said to greatly deaden sound.

THE LIFE OF A LOCOMOTIVE.—In regard to the durability of English railway work, it is stated that the life of a locomotive boiler has been found to be about 350,000 train miles, and on some lines this has been extended to four hundred and even five hundred thousand miles. The wear and tear depends of course greatly on local circumstances, and particularly on the chemical qualities of the water employed. Assuming that the life of the engine is determined by the endurance of the boiler, and that under favorable circumstances it will last five hundred thousand miles, then, during that time, the fire box will probably require renewal at least three times, the tires of the wheels five or perhaps six times, the crank axles three or four times, and the tubes from seven to ten times, with the best possible material and construction presumed to be used in each case. Similar statistics from the life of American locomotives would be of interest. In one case lately published, that of a locomotive on the Pennsylvania Railroad, built by the Baldwin Locomotive Works, we believe actual data gave the number of miles as exceeding the amount stated above.—*Iron Age.*

MODEL RAILWAY MANAGEMENT.—On the Michigan Central road, for over 16 years past, not a drop of blood has been drawn from man, woman or child inside the cars, and just now the *modus operandi* is especially important. At all hours of the day and night there sits an operator in the Kalamazoo station (midway of the line), who receives telegrams from each train on the road the instant it enters or leaves a station, so that he holds or starts it at will. His eye is literally making a collision next to an impossibility, and the immense single track quite equivalent, so far as safety is concerned, to the double track roads. The 12 and 16 wheel coaches, admitting of the breaking of any one of the wheels without disabling the track, constitute also no small item in this aggregate of immunity from peril.—*Railway Times.*

IMMENSE QUANTITIES OF EAST IRON NAILS ARE MANUFACTURED IN STAFFORDSHIRE, ENGLAND. Over a 1,000 tons of iron are annually consumed for this particular industry. The appliances for casting are so well perfected that one hand can produce 750,000 nails of the smallest size in a day, while 52,000 of the larger size can be made in the same period. The mold contains large numbers of connected forms for the nails, and the latter hang together when removed therefrom, and are broken apart. They are subsequently tempered in oxide of iron and made malleable.

NEW PROCESS FOR SILVERING MIRRORS.—A plate of glass measuring 100 superficial feet was recently silvered at St. Helen's Lancashire, England, by a new process, by which the mirror was completed in forty hours, instead of ten days, which would have been required according to the old methods. This mirror, it is stated, is the largest ever manufactured in Lancashire, and with one or two exceptions, the largest ever made in England.

ACTION OF FROST ON RAILS.—Contrary to popular belief, a technical journal says, steel rails are less effected by frost than are iron ones. The Grand Trunk Railway, after five years' trial of steel rails, laid sixty miles of them last year, which have stood well. This year eighty-five miles more are to be put down.

SCIENTIFIC PROGRESS.

THE ANALYSIS OF TEA.—Tea contains several characteristics, which are seldom taken into account, in addition to its usual 5 per cent. of thein or thereabout. Iron forms a very important constituent, as does also manganese and potassa. The leaves of the tea plant give about 5.63 per cent. of ashes, of which 4.04 are soluble from the leaf and may be found in the extract. The extract therefore is very rich in inorganic compounds; especially in phosphoric acid, but they contain only a little potassa. Old tea leaves contain much lime but little potassa and phosphoric acid. Of a young tea more than $\frac{1}{4}$ will go in the extract, of old leaves much less. The above observations are the result of some recent investigations as reported in *Annalen der Chemie.*

NEW PROCESS OF OBTAINING A CEMENT WITH THE SCORIE OF BLAST-FURNACES.—One part of these slags in fine powder is sprinkled and agitated in a suitable vessel, with two parts of an equal mixture of hydrochloric acid (35 per cent. HCl) and water. The slags decompose, a lively disengagement of H₂ taking place. The mass finally forms a thick jelly, from which water removes the chloride completely. After removing these, the residue is dried and reduced to an impalpable powder; one part of this powder, intimately mixed with 9 parts of slag in powder, gives an excellent cement in water or air as it may be desirable to apply it. The composition of the slags from which the best cement is obtained should be about as follows:—Essential elements—Silica acid, 40.28; clayey earths, 15.13; calcareous earths, 36.24; non-essential elements—manganese, oxide of iron, alkalies, etc., 8.35=100.

PHOTOGRAPH PRINTING IN COLORS, is effected by mixing the colors with a solution of bichromate of potash, spreading the color thus mixed over the surface to be printed, and exposing it to light under the negative. The spots where the color is not fixed by the decomposition of the bichromate, may be washed off, of course as many negatives must be used as colors are intended to be used, and the parts which are not to receive any of a given color, are to be carefully covered in the negative for that color. This process may be used on textile fabrics, glass, etc. The articles to receive the picture should be covered with a varnish of gum damar in benzine, to which a little alcohol has been added, to prevent cracking.—*Philadelphia Photographer.*

EFFECT OF AN ECLIPSE OF THE SUN ON THE MAGNETIC NEEDLE.—It is a well known fact that the magnetic condition of the earth is disturbed during displays of the Aurora Borealis, and is manifest from the irregular movements of the magnetic needle on such occasions. Other extraterrestrial causes may also produce similar disturbances. It was observed on the 22d of last December that the magnetic needle followed its usual course till the commencement of the solar eclipse which occurred on that day. With the beginning of the eclipse it retraced its steps until it reached its minimum declination at 1 hour 58 minutes, which was the instant of totality. From that moment the ascending motion toward the west began anew, until the needle had regained the exact position it had occupied when the eclipse began.

VINEGAR FROM WINE.—It having been observed that wine when left to stand in contact with the air, usually turns to vinegar after a certain lapse of time, but the water in which a little alcohol has been mixed never became vinegar, though exposed to the same conditions; M. Pasteur has recently made researches on the subject, and discovered that this change is due to the presence of a small plant in the wine—the *Mycoderma Aceti*. Taking advantage of the knowledge of this fact M. Breton Langier has instituted a large vinegar factory in which, bearing the fact carefully in mind, vinegar can be made more rapidly and cheaply than before.

ARTIFICIAL AZURITE, has been formed by Messrs. Webel & Tuengel, by enclosing gypsum and the green carbonate of copper in sealed tubes for several months. Intensely blue crystals of azurite, together with crystals of sulphate of lime were obtained.

ANALYSIS OF CUNDURANGO.—The new plant—whose extract or decoction is said to effect such wonderful cures in cases of cancer, has been analyzed by Dr. Antisell, chemist to the Agricultural Bureau at Washington. The doctor finds the ratio of the wood to the bark to be as 50:28 to 49:72. The centesimal composition of the bark was as follows: Moisture expelled at 212 Fah., 8; ash matters or mineral salts, 12; vegetable substances, 80. The vegetable matters were separated and found to be composed as follows: Fatty matters, soluble in ether and partly in strong alcohol, 0.7; yellow resin, soluble in alcohol, 2.7; gum and glucose from starch, 0.5; tannin, yellow and brown coloring matters (extracted) 12.6; cellulose, lignin, etc., 63.5; total, 80. No crystalline alkaloid could be detected, and according to the above results, the therapeutic position of the plant must be among the aromatic bitters.

ROARING OF AURORA BOREALIS.—M. Becquerel read, at one of the last meetings of the Academy of Science of Paris, a paper on the Celestial Origin of Atmospheric Electricity, and he concluded by stating that the auroras result from discharges of this electricity, and thus he explained the roaring, more or less loud, heard by the inhabitants of polar regions. Most scientific men deny the occurrence of these sounds, but M. Becquerel, in support of his opinion, quoted the observations of Paul Rollier, aeronaut, who started from Paris in December last, and descended 14 hours after in Norway, on Mount Ide, at an elevation of 4,000 feet: "I saw through a thin fog the moving of the brilliant rays of an aurora borealis, spreading all over its strange light. Soon after an incomprehensible and loud roaring was heard, which, when it ceased completely, was followed by a strong smell of sulphur, almost suffocating.

The doctrine that a uniform temperature of thirty-nine degrees prevails at a certain and considerable ocean depth is fast being abandoned, in consequence of the recent researches of Dr. Carpenter and others. It was supposed to derive support from the thermometric observations made in Sir James Ross' Antarctic expedition. Since then, however, it has been conclusively proved that no ordinary thermometers, such as the instruments with which those observations were made, can resist the pressure amounting to a ton upon each square inch, for 800 fathoms of depth to which they are subjected, in deep-sea soundings. Thermometers, protected by a simple arrangement devised by the late Professor W. A. Miller, whereby a pressure of even three tons to the square inch would produce no perceptible effect, are now used.

FLOATING OF SOLID IRON ON MOLTEN IRON.—The following explanation seems reasonable, and is accepted by many foundrymen and others. According to the dynamical theory of heat, the molecules or particles of heated metals are in a state of great agitation, and the higher the temperature, the intenser the molecular motion. The difference in the specific gravity of melted and solid cast iron being slight (as 31 to 32 nearly,) this constant and fierce movement of the particles of the former, prevents a block of the latter from sinking. An analogous action is found in swift running streams or eddies, upon which bodies of considerably greater gravity than water are supported for a long time and also in the partial suspension of an egg in boiling water.—*Scientific American.*

It has been asserted by some scientists that animals do not suffer so much under parallel injuries as man. Horses so badly hurt that their leg bones have been found protruding through the skin, and actually in contact with the ground as they walked along, having been known to begin to graze almost as soon as they were left to themselves. Of course in such a case the horse must feel some pain; but it must be immeasurably less than that which a man would suffer in a like condition. We cannot, for instance, believe it possible that a man could sit quietly down to dinner just after having his leg broken; yet that would be a parallel case.

TEST FOR GALVANIZED IRON.—When zinc is deposited on iron by galvanic agency, it should form a chemical combination with the iron, and not be merely attached thereto. It is proposed by Mr. T. Bruce Warren, of England, to use this fact for practically testing the efficiency of the galvanization. If mercury be poured over the surface, the zinc that is only locally attached will form an amalgam with the mercury. Mr. Warren also uses this as a quantitative test, to verify the amount of zinc in combination with the iron.

CORRESPONDENCE.

A VISIT TO MONTANA.

BY OUR OWN TRAVELER.

Eds. PRESS:—Leaving Corinne, on the line of the railroad, I took my seat beside the driver on one of Gilmore & Saulsbury's stages, and began my second trip to the New North West. After nearly four days' ride, we arrived at Helena, and from thence I crossed the mountains to pay a short visit to Deer Lodge and Bitter Root Valley. On the road from Helena to the west side of the mountains the hills are covered with a luxuriant growth of bunch grass; which averages about fifteen inches in height. The road is a good one, and the grade, although crossing the main range of the Rocky Mountains, is not very steep.

Missoula City.

This thriving little burg is situated at the mouth of the well-known pass called Hell Gate, about a quarter of a mile wide, and through which the Hell Gate, or Missoula river, winds its way. This place has improved greatly since I was here last. A fine court-house has been erected at an expense of nearly \$26,000, and many new buildings have been put up, showing signs of prosperity. The Missoula Pioneer, a weekly paper, which keeps its readers posted on matters connected with mining, farming, and general news, is now in its second volume. A good flour mill, owned by Worden & Higgins, and run by water-power, is steadily grinding away on wheat raised in the vicinity, and which is bought at the ranches at \$1.75, or delivered in the city at about \$2 per bushel. Flour from this mill sells, per sack, Missoula extra, \$7 and \$8; self-rising, \$9 and \$10; retail rates range about 15 per cent. above these figures. There is a project on foot called

The Missoula and Frenchtown Ditch,

which is intended to take water from the mouth of the cañon at Missoula, along the valley, to a point four miles west of Frenchtown, for irrigating purposes. It is said that this ditch will reclaim some 15,000 acres of land; it has a capacity of 7,000 inches and is 15 feet wide at the bottom. It will cost about \$30,000. The land has produced from 18 to 20 bushels of wheat to the acre, but by irrigation it is supposed that from 30 to 35 can be raised. The soil is black and rich and in many places sandy. Fine vegetables can be raised. A steam, and two horse-power threshers, are at work in Bitter Root Valley, and wheat is coming in daily. I understand that this year the section will produce 60,000 bushels of wheat against 30,000 last year. Watermelons, cantelopes, and mushmelons grow in abundance, and are very fine. Mr. McWhirk has in his gardens at this place, plum trees laden with fruit, which is of fine flavor and of a very large size. Missoula is located 46° 45' north latitude; longitude 113° 45' west; altitude 3,300 feet.

Bitter Root Valley.

Leaving Missoula on a fine morning, we followed up the Bitter Root River, (from which the valley derives its name,) which runs a northerly course, and empties into the Missoula river, a few miles from that city. The mountains running along the western side of the valley, form the dividing line between Montana and Idaho territories. The Missoula is at this point about 200 feet wide, and two feet deep, and abounds in trout, some of which weigh from four to six pounds. After riding nearly all day we arrived at

Stevensville,

twenty-six miles from Missoula. One of the noted places near here is St. Mary's Mission, established by Catholic priests in 1845. The Indians attend church here as well as white men. One of the priests, Father Ravalli, is a skillful medical practitioner, and visits the many families in and about the Mission, and the miners in the different camps near by; he is well liked by all. There are several small ranches near by owned and cultivated by Indians; but like all their race they are averse to hard work. Some 2½ miles from Stevensville, on the west side of the river, is one of the finest ranches in the valley, owned by Mr. E. W. Bass, who is a very hospitable gentleman. He is a young man, but he has everything ar-

ranged in an orderly manner on his farm having a saw mill and many improvements besides. His place is called

Pine Grove Farm.

It comprises something over 300 acres and is very level, the soil being black and in some cases a sandy loam—rich and productive. The flower garden is a model one, and is under the supervision, as it should be, of Mrs. Bass. Experiments have been tried with a variety of seeds, both of fruit and vegetable, so as to see what would suit the climate best. The apple, pear and quince trees, are from imported seeds from Philadelphia; and were set out on the 1st of May; now, the last of September, they are between three and four feet high. Ground Cherries (strawberry tomatoes) have been introduced and grow from an inch to an inch and a half in diameter; they have a "shuck" or covering like corn. They were planted this year from seed, and are cut and dried, and sold for dried fruit in this market, being eaten as you find in California would an apple. There are two varieties—blue and yellow, the latter having the best flavor. They can be preserved like strawberries or blackberries and are very nice. I will send you some samples in case some of your friends would like to plant them.

The Trophy tomatoes are also growing on this farm, some of them of a very large size. The soil seems particularly suited to this class of vegetables, and I venture to say I have never seen such large ones as are grown here. This latter variety is the finest, fleshiest and best flavored, of any I know, and farmers not having them would be well paid for their trouble in planting.

The cultivation of the more tender fruits and vegetables in this valley, is but an experiment as yet, owing to its recent settlement. An acre of corn planted May 15th, has matured finely, proving that it can be grown successfully. Early Rose potatoes, six inches long, are plenty. The Peerless or Breesees potato originated from the same seed ball as the Early Rose and is of a large size, weighing from one to two and a half pounds. I counted 49 in one hill, of different sizes. The skin is dull and the flesh white and mealy. A small lot of Pea Onion seed, sown broadcast on May 15th, has produced onions from four to six inches in diameter. They are known as the Weathersfield variety.

The grapevines set out at the same time, are from three to four feet long and have done well so far. There is a large patch of watermelons in the valley, for which there is ready sale in the mining camps. Mr. B. has about 100 acres of wheat and oats this season which has turned out very well. He sold 1,200 bushels of wheat to Messrs. Morden & Higgins for \$1.75 per bushel, delivered at the farm. Blackberry roots have been brought from the East and have done well. Mammoth squashes have been introduced, some of which weigh 100 pounds. They thrive better in a warm temperature, but do well here, by keeping the earth loose around the plant and removing superfluous vines from time to time. There are cabbage heads here which are not yet grown that would hardly pass into a flour barrel.

Fifty acres of Oregon club wheat were planted this year, and from two bushels to the acre sown, the yield will be from 25 to 26 bushels. I understand that smut is the only thing the farmers have to contend with in this section. The proper manner of irrigation, I am told, is to have a head ditch at the upper side of the field, and the wheat laid off in long beds, from 15 to 30 feet wide; small streams are allowed to pass between these beds. This is done twice in a season on this farm. Irrigation must be relied on throughout this valley to be successful in farming or gardening.

Mr. B. has 100 head of pigs, and last year sold \$1,200 worth of bacon. The pigs were fed on watermelons, milk, etc. The Indians pick beans, pull onions, feed pigs, etc., for Mr. B., receiving their pay in watermelons, of which they are passionately fond. They receive from one to two melons per day, each, according to labor performed. This farm is a type of those in this neighborhood, and I have therefore described it minutely. Mr. S. Freeman, who has about 33 acres of land a few miles from here, sowed 55 bushels of oats which yielded 1,325 bushels. He also sowed 14 bushels of Oregon club wheat which produced 200 bushels. It was planted between the 1st and 15th of April and harvested on the 12th of August. This is his first year in the valley. About half a mile from the beautiful town of Stevensville, is

Fort Owens.

built of adobes, 300x200 feet square, with

walls from 2 to 3 feet thick. A large tract of good farming land surrounds the fort. Forty acres of wheat and oats were sown this year, and irrigated from the waters of Burnt Fork Creek, a small stream that flows past Stevensville. Near by is a flour mill, belonging to Mr. M. J. Owen, run by water power, which has an 18 foot wheel and one run of stones. The farm and mill are worked by J. A. Nichols, who intends making extensive improvements.

I will pass from here up the valley and communicate the results of my trip next week. W. H. M.

Irrigation, Corn Culture, Etc., in Los Angeles.

EDITORS RURAL PRESS:—During the present dry year the public mind seems considerably exercised on the subject of irrigation, and large, capacious and expensive ditches are being constructed in various parts of the State, particularly in those parts where the rain supply is uncertain, and usually small in quantity, and also where the natural supply of water is only reached at a great depth from the surface. There is no doubt that a large breadth of land will be made permanently productive by these means; and if the soil is thoroughly stirred after each saturation, no injury will result to the land. The great objection to this system of culture is the expense attending it, and the worst feature is the sickness that may be induced.

It is well known by all who have tried it, that irrigation, without after cultivation "kills the land"—that is, renders it heavy and sodden; and as compact soil is a good conductor of heat, the land dies out, and unless the water is renewed at short intervals, the crop will wither and die.

Subterraneous Irrigation

has been suggested as a remedy for the evil of surface irrigation. This is effected by burying in the soil at intervals of a few feet, lines of porous earthen pipe, by which, when full of water, and leaking at every pore, exactly the needed supply of moisture will be furnished, and no more. This is the perfection of irrigation, and but for the heavy cost of the pipe and the expense of laying it would be universally adopted. Its present use is confined to small plots where cost is no object.

Natural Subterraneous Irrigation,

is without question far preferable to artificial and it exists in every acre and every square foot of land in our great Los Angeles valley—an area of land comprising not less than 200,000 acres in one body, in every part of which, where properly cultivated, the moisture rises in a perpetual and perennial supply. The average depth being about six feet, of course all deep rooted plants soon become entirely independent of any surface supply, and as loose pulverized soil is a non-conductor of heat, in midsummer the utmost power of the sun does not dry it to a greater depth than three inches; below that point the moisture is abundant and perpetual. These statements are not based upon theory, but upon facts proven which can not be contradicted; proofs which I have and am ready to furnish to all who apply to me. It was a knowledge of this natural supply of moisture that induced Mr. Jno. S. Finch, of Alameda, to purchase several hundred acres of land on the Coyote (one of the Stearns Ranches) for the purpose of cultivating the Ramie, which he was then just introducing into this State. The Pacific Ramie Co., of which he is a member, will this winter plant 200 acres of Ramie, and there will probably be 100 acres planted by other parties; so that this crop will be fairly tested, another year in this valley. If the results are only one third of what they expect, they will all be rich men.

Corn Cultivation.

There is a field of corn on the Bolsa Grande (about seven miles from Anaheim,) 12 weeks from the seed that promises one of the largest crops ever raised in this county. It averages 16 feet high. The same party raised 140 bushels of corn to the acre last year, and considers this a better crop. His first planting was destroyed by grasshoppers, and the ground was plowed and planted again. A number of parties are raising corn on contiguous land; this being a dry land all of them irrigated their land before plowing, and the testimony is that the corn which was so planted, and left to grow, is better than that which has been subsequently irrigated.

In the latter case the soil has baked and dried out. This proves that with a sufficiency of rain to moisten the land, no irrigation is required, and my experience has that when the previous cultivation is thorough, the land in this valley will be found sufficiently moist at all times and for all purposes, without regard to rain or irrigation. So far but few persons have taken the trouble to cultivate thoroughly. The corn crop of this section promises to be fully equal to that of last year.

The Fence Law.

There is a very strong feeling throughout the greater part of this county in favor of the repeal of the present fence law. In fact there is no serious opposition, except in a few outlying districts where grazing is the rule and farming the exception.

At present the only protection against the depredations of horses and cattle is the steady and persistent administration of full doses of "blue pills," to the offending brutes. The thieving owners are thereby convinced that it is to their interest to remove and take care of their stock. It is to be hoped that the next Legislature will repeal the present law for the whole State, and force the owners of stock to take care of the same. Every man should be forced to take care of his own stock, and be made responsible for any damage to the property of others. Yours Truly,

WM. R. OLDEN.

Anaheim, Sept. 29, 1871.

Land Decision.

Judge Field rendered a decision last week in the United States Circuit Court, which affects the interests of many persons in Nevada. The Central Pacific R. R. Co. brought suit to quiet title to a number of pieces of land claimed by settlers who had made their locations on the line of the road, after the passage of the bill, but before the route was determined. These tracts were owned by the company, and the settlers demand damages and threaten to bring suit. The company forestalled them by a suit to quiet title. Justice Field decides that the grant to the railroad went into effect when the bill passed; the settlers took their claims subject to the provisions of the bill; and the rights of the company to the land are not dependent upon the date when the road was located. These points arose on a demurrer, but as that raised all the material questions in the case, the decision overruling the demurrer virtually finished the suit.

Explosion of Torpedoes.

BY OUR NEW YORK EDITOR.

On the 14th of last month, New York had another horror added to its list. A truck-load of what are known as Union Torpedoes, exploded, doing a fearful amount of damage.

The chief interest which the explosion has, is from the fact, that the ruins give a good illustration of the peculiar effects of a powerful explosive in a great number of small charges fired simultaneously.

The annexed sketch is a section of one of these torpedoes full size. They are made



by a machine from a fine clay, and the hole in them filled with a substance which the makers say is not nitro-glycerine. If their statement is true, it only proves that they have discovered an explosive compound equally dangerous and very much like it in results. The opening in the clay is closed by a piece of tissue paper.

The report from one of these is fully equal to that from a navy revolver; the explosion of one is wonderful. Though the total amount of nitro-glycerine in the whole lot which exploded was small, yet it was large enough to rend to fragments almost every part of the truck; nothing seemed to escape, even the hickory "rungs" standing loosely in their holes were split and shivered to shreds, the double-tree shared a similar fate, and so did every part of the truck, and every object in the vicinity. The small amount of injury done to persons at a distance, and to the buildings, was probably due to the small size of the fragments. Everything was reduced to bits at the instant of the explosion, and consequently, there were no large fragments to fly about, a characteristic point in nitro-glycerine explosions.

NOTES OF TRAVEL IN SANTA CRUZ COUNTY.

Pajaro Valley.

Eds. PRESS:—The shipping places of this valley extend north as far as "Aptos," midway between Watsonville and Santa Cruz, embracing in all, five, not mentioning the railroad depot just being built. The shipping points are, Aptos, Miller's Landing, Pajaro Landing, Watsonville and Salinas Landings.

Yield of Cereals for 1871.

The yield this season of wheat was from 2,500 to 5,000 pounds per acre, from 50 to 70 bushels of barley, and from 60 to 75 bushels of oats, per acre.

Norway Oats.

In one instance, 18 acres yielded 578 sacks of Norway oats weighing 103 lbs. to the sack, or in round numbers 30 tons, and the straw grew 6½ feet high. The above field of oats was raised in the Castro bottom, four miles from Watsonville. As a general thing oats were badly affected by the drouth this season. From one grain of the above named variety, I was shown a bunch of 75 stalks grown to the height of six feet, which yielded 25,000 grains.

Exportation of Grain.

The farmers in this valley as a general thing, keep about 5 per cent. of their entire grain crop, for home consumption, and seed. From the most reliable authority, it may be estimated, that 20,000 tons of cereals are exported from this valley annually; mainly to San Francisco and intermediate places. Some of the farmers here feel very bitter against the freight monopolists, charging \$5 per ton to your city; and renters generally complain of the high charges that land-owners ask for leasing lands in this section.

Cashmere Goats and Cotswold Sheep.

J. M. Rodgers, under the firm name of Rodgers & Landrum, owns a very fine tract of land containing 80 acres, one mile north of Watsonville, stocked with 20 head of full blooded Cotswold sheep, and 18 head of full blooded (Angora) Cashmere goats; the latter are the finest specimens in this State.

Hop Ranch.

Adjoining the ranch of Mr. Rodgers, is that of Austin Smith, Esq., one and one-half miles from Watsonville; he has 55 acres of a tract, 20 of which are in hops; and from which he this year reaped 15 tons of dried and pressed hops. Mr. Smith has connected with the same, all the improved machinery, for drying and pressing. I believe this article of commerce, (principally used for ale and beer-making) has been about 55 cents per lb. of late, but as the hop crop on the average has been a failure, Mr. S. predicts that the price of this article will go to 75 cents, or \$1 per pound.

Fine Heifer.

E. Ordish, ranchman and principal butcher of Watsonville, is fattening for the holidays, one of the largest specimens of bovines in the State. It is, I should judge, a ¾ Durham, was imported from Kentucky a year or two since, but has proved to be barren. She girths 9 feet 10¼ inches and measures 8 feet 1 inch, from pate to hanches, and weighs a ton. Mr. O. is also the possessor of a small menagerie of coons, wild cats etc., and a full grown grizzly bear, not mentioning one of the finest fitted up residences in the town of Watsonville.

Pajaro Landing.

Goodall & Nelson are proprietors, and it is situated 5 miles from Watsonville; a good road leads to it, and they have a fine wharf and ware house; the latter has a capacity of storing 50,000 sacks of grain. There are on hand at present, 4,500 sacks. The shipment from this landing is about 100,000 sacks of grain annually; besides potatoes, beans, flax seed, etc.

Gibson's Landing.

Messrs. Sutton & Co. of San Francisco are the proprietors. This company's wharf and warehouse are similar in size and capacity to those above mentioned. It is situated 7½ miles from Watsonville, and 3½ miles from Castroville. From 12,000 to 16,000 sacks of cereals are annually shipped from this point.

Moss Landing.

This is the most important landing on the Bay of Monterey. It is situated 8 miles

distant from Watsonville, and 3 from Castroville. It is owned by Mr. Chas. Moss. It consists of a fine wharf with 5 fathoms of water at low tide.

The principal shipments from this landing are wheat, barley, oats, flax-seed, mustard-seed, potatoes, wool, etc. Last year 13,000 tons of grain were shipped from this point, and it is expected that the shipment will exceed 20,000 tons this year. The size of this warehouse (one of the finest on this coast) is 282 by 68 feet, with two wings each 200 by 68 feet. Something like 200,000 sacks of grain are at present on hand. This is the natural outlet for the products of the entire Salinas Valley (of which I will speak in a future letter.)

Pork Packing Establishment.

In the vicinity of Moss Landing quite a little settlement has sprung up. Hills & Co., at this point, are the proprietors of one of the finest steam pork packing establishments in the State. They have some \$7,000 worth of improvements, regularly employ 8 men, and slaughter annually 5,000 hogs, but have a capacity of 15,000. This firm furnish the vicinity, and the overplus is sent to your city. Live hogs are worth here at present, 5 cts. per pound on foot. The climate at this place is always cold, for that reason one of the best for the above named business.

Storer's Hotel.

One of the best wayside inns that I have found in my travels in this State, is located right here; W. D. Hamilton manager. Not being in the habit of puffing boarding houses, and hotels I beg pardon for stepping aside to say that the meals at this place are first class. In my next, "what may be seen in one week's visit to the Salinas Plains." L. P. Mc.

Santa Cruz Farmers' Club.

The Club met at the office of the librarian on Saturday afternoon, July 7th, President Mattison in the chair.

On motion, a committee of three, consisting of Dr. C. L. Anderson, D. M. Locke, and B. Cahoun, was appointed to investigate into the nature of the disease, which had lately carried off so many of Mr. Raffner's cows, and report at the next meeting.

On motion of Mr. Conant, a committee of three, consisting of Messrs. Conant, Sawin and Doane was appointed to consider the feasibility of holding a fair for the exhibition of the different varieties of grain, fruit and vegetables raised in Santa Cruz county. Mr. Francis presented some fine specimens of grapes raised on his ranch on the coast.

Mr. Francis thought that grapes could be raised as successfully on the coast as back among the hills. He did not think that the sea winds would affect them if they were properly attended to, and at the next meeting would state his reasons.

"Grape Culture in Santa Cruz County," was selected for discussion at the next meeting. The Club then adjourned to Saturday, Oct. 14th, when the two committees will make their reports. I will send you a copy of them for next week's RURAL. R. C.

THE CURRANT WORM.—The Boston *Journal of Chemistry* gives the following:—We are informed by Dr. E. Worcester, of Waltham, that the currant worm, so destructive to a favorite fruit, may be fully and almost immediately destroyed by the use of carbolate of lime. The doctor tried the powder in many instances during the summer, and found that while it was fully as effective as hellbore, it was less disagreeable, less costly and perfectly safe. The method of using it, is, to sprinkle it over the vines as soon as the worm makes its appearance, bringing it well in contact with the leaves, and soon the insect is destroyed. It will need but two or three applications, and the work is done. In this way, for a few cents, large quantities of currant bushes may be saved and the fruit allowed to mature, and no danger whatever incurred. Neither the foliage nor the fruit is in any way injured by the carbolate of lime.

A PRECOCIOUS GRAPE VINE.—The *Mendocino Democrat* is responsible for the following:—There is a grape vine in the garden of J. F. Noel, of Calistoga—two years from the cutting—which has grapes upon it that will weigh when ripe, from 75 to 100 pounds.

STATISTICS.—We have received from Hon. C. P. Cole, the annual report of the Chief of the Bureau of Statistics for 1870. It treats particularly of commerce and navigation.

MISCELLANEOUS.

How Cherry Trees Should be Grown.

We gave some hints last week on the growing of the Cherry Tree. The following from the *Journal of Horticulture*, presents some items of practical experience in this direction, which may be read with profit by all who are interested in the growth of the Cherry:

Years ago it was just as easy to raise a good crop of cherries as to raise a good crop of apples. We remember when a boy, we made good wages picking this fruit at fifty cents the bushel, the trees gave such an abundant crop. Several years ago a change seemed to come over the cherry tree. When grown too rapid, they burst their bark in many places, permitting the gum to exude in abundance; and finally, the limb or branch would die. Warts, also became numerous, and did considerable damage; the curculio began to destroy the cherry as he had already the plum; and lastly, a severe drought followed by a severe winter, seemed to give the finishing touch to many of the cherry trees. The remedy for the first trouble, we believe is within our reach.

We remember, some years ago, a neighbor bought a hundred cherry trees, and set them out in an orchard, and began to manure, and treat them as he had done his apple orchard, which was in a very thriving condition. In a year or two many of the trees burst their bark, turned black, and parts died; and this continued until three-fourths of the whole were dead, or nearly so, being quite worthless. It was evident to the farmer that he had killed his trees by kindness; and he stopped manuring and sowed his land down to grass; and this saved them. What would do for the apple tree would not answer for the cherry.

We know another orchard, now some years old, that we set out for a neighbor, where the trees have been kept in grass ever since the second year after they were set; and these trees have made a good, sound, healthy growth each year, and latterly, even for ten years past, except a single year, have borne good crops of fruit. There is not a more healthy cherry orchard in the country. These trees have never suffered by the bursting of the bark, nor from warts. The best trees may be so forced in growth as to become tender and diseased, and in a short time worthless, as neighbor Jones' trees did. We are perfectly sure that all who have been troubled by diseased cherry trees, will, if they adopt the plan we have referred to, soon see the beneficial effects of it, and, though they may have to wait longer for fruit, will succeed in saving their trees.

CIDER MAKING.—Quite a large number of residents of Nevada are engaged in cider making this season. As yet we have never seen any California cider that will keep any length of time, and from the amount of cider manufactured this season we infer that vinegar will be very abundant in this locality in the future. Many experiments have been made to keep cider for winter use, as is done in the East. In one case an experienced cider manufacturer sent to England and procured a cider mill of the same kind as was used by his father who manufactured cider for London. He set his mill in operation, put his apples through the same process, and produced a beverage, but it wasn't cider. A gentleman who tried it, said whisky was mild compared with that cider. California cider is excellent when new, but it won't keep. We have never known of an instance where it could be used after a month or two. Any one who can find a process by which cider can be kept for a year as in the East, will render an important service to those engaged in its manufacture.—*Nevada Transcript*.

MULES 1,000 FEET UNDERGROUND.—Two mules are now employed in the lower level of the Belcher mine, Washoe, to haul the cars from the stopes to the hoisting shaft. They were let down by being swung under the cage, and behaved very quietly during the process—very unlike a mule under such circumstances. They appear to be very well contented with their subterranean quarters "down below"—a thousand feet from "grass."

DEATH FROM MUSHROOMS.—Several more cases of poisoning from eating mushrooms have occurred—this time at Hartford, Conn. Three cases proved fatal.

SKINNER'S SEEDLING APPLE.—The California *Agriculturist* speaks of the above named apple as the very best and most desirable early cooking and eating apple in this country. This apple is a native of San José. The seed was brought from the West, and planted in 1854. The apple first attracted attention in 1857. Within a few years it has become a standard favorite with all our fruit growers. The size and shape of the fruit resembles the Spitzenburg; but the color of the fruit is much the same as the Bellflower, but not so yellow. The flavor also resembles the Yellow Bellflower, while the flesh is finer, and the pulp quite as juicy as the Rhode Island Greening. We regard the crispness and richness of the fruit as even superior to the Gravenstein, which, by the way, has always been our favorite among early apples. One of the most important qualities—in fact the very best for this country—is its persistence in hanging upon the tree. The greatest trouble with the fine varieties here, is the continual dropping before and after ripening; and one day lying in the sun upon the dry ground will spoil the fruit. Hence, this apple, the Skinner's Seedling, stands deservedly at the head of all apples, in this, that it will rot and dry upon the tree, before it will drop. Its season is from the middle of August to the middle of September.

GROAT'S NEW CHURN.—Two patents were recently issued to E. N. Groat, of Napa, for a churn, which we believe possesses an entirely new feature in the construction of this useful and almost universally applicable class of machinery. We allude to the to and fro motion of the two side fingers or stirrers working in opposite directions and alternately. Mr. Groat's partner at the State Fair made the largest and best display of churns, (embracing different sizes) that we have ever seen at any Industrial Fair in the Union. The proprietors are encouraged with its success thus far and anticipate the general adoption of their churn into use—and contemplate its illustrations for the benefit of our readers.

HONEY IN THE MOUNTAINS.—The Plumas county *National* says that quite a large quantity of honey is now found in the woods near La Porte, and bee hunting is becoming a favorite pastime. Since the introduction of bees in this State, our immense forests are gradually being colonized by these industrious honey manufacturers, and such is the mildness, as well as the geniality of our climate, that they will multiply rapidly, and our land before long, like that of ancient Canaan, will be overflowing with honey, if not with milk.

BENICIA YOUNG LADIES' SEMINARY.—This institution held a pleasant "Re-union" on Thursday evening last, on which occasion an oration was pronounced by Dr. A. L. Stone of this city, and a poem was read by one of the early graduates. We regret our inability to accept the kind invitation to be present.

A SANITARIUM AT LOS ANGELES.—The Los Angeles *Star* says that a gentleman of means intends, in co-operation with the physicians of Los Angeles, to establish a sanitarium in that city. The water rising from a spring in, and flowing along, Wilmington street, is found to contain iodine and chlorine, and is believed to have the highest healing qualities.

PREVENTING BEES FROM MIGRATING.—One of our bee-keepers prevents his swarms from leaving his premises by killing all the "queens" but one in each hive, and then clipping one wing of each. If they then attempt to leave, they go no faster than the queen travels on foot, and are consequently easily hived. We are not sure whether this "cruel dodge" is new or not.

MOSS AGATES.—A large deposit of moss agates has been found on the banks of the Chitika and on Willow Creek, some twenty miles from Portland, Oregon. The discovery will not prove of any especial value however, as the market for these stones is already oversupplied from the deposits in Wyoming and Montana Territories.

AGRICULTURAL NOTES.

CALIFORNIA.

ACTIVITY AMONG THE FARMERS.—Although the victims of two dry and unproductive seasons, says the *Republican*, the farmers of San Joaquin county are by no means despondent or dispirited. They are up and doing, and working with a zeal and hopefulness cheerful to look upon. Men who are now heavily laden with the accumulated debts of the two years during which they had not only lost their labor but the seed they planted and the cost of living for themselves and teams, are at work plowing, sowing and harrowing. Every possible acre of land will be seeded, and if the season is propitious the next harvest will be the most bountiful ever gathered in this valley, and the disappointed but not dismayed farmers will be able to wipe out the old score of debts and liabilities which are about the only crop yielded by the long drought. May Ceres reward their patience and industry.

GOING BACK.—As the rainy season approaches hundreds of farmers on the west side of the San Joaquin, who left their farms to seek employment elsewhere during the continuance of the drought, are returning to prepare for putting in crops as soon as the rain commences in the fall.

THREE MILES A WEEK is being completed on the San Joaquin and King's River Canal. The canal has already reached a length of a little over 30 miles, and work has been commenced in putting in the dam and flume at the point on the San Joaquin where the canal has its head. The statement that an error had occurred in the survey is all bosh.

THE BANANA IN LOS ANGELES.—The *Anaheim Gazette* says:—We have been shown two magnificent specimens of the banana tree grown in the nursery of T. E. Schmidt. One of the trees has a stem about eighteen inches long, which is hung with a finely developed bunch of bananas, numbering about forty in the cluster. The other tree is partially in bloom, but it is fast changing its flowers into fruit, and will ere long prove more productive than the one first spoken of, as it contains at present almost as many bananas, besides a large quantity of buds. We understand that this valuable and delicious article of fruit was planted last year, and therefore only a little over a year old when it commenced to bear. Schmidt has in, cultivating this new fruit, exceeded his most sanguine expectations, as he did not anticipate such successful results from what he designed only as an experiment. It is evident from the above facts that all tropical fruit will propagate and flourish here as luxuriantly as in their native clime, and that too, with little trouble or expense. We are reliably informed by an old Brazilian that this specimen of the family of the plantain tree, is fully as fine in growth and beauty as any ever raised in the region of the Equator. We believe that these banana trees are the pioneers in this county and challenging competition—this side of the San Gabriel any way.

The *Alta*, in alluding to the Los Angeles banana tree, says:—Only a few weeks since we reported that a pine apple had ripened in the open air at Los Angeles. At the same place last year one of the date palm trees bore fruit, and we presume is bearing this year again. A strawberry guava tree in San Francisco bore fruit last year. These facts are of great interest for the agriculture of the State. They are the beginnings of the cultivation of the tropical fruits; the semi-tropical fruit trees we already have in considerable number.

The report of the United States Commission of Agriculture for August mentions that the bananas in Hillsborough county, Florida, have suffered severely from a late storm, and the guavas in Manatee county in the same State have recovered from last year's freeze and are in bloom again. The winters in those parts of Florida are more severe than in the valleys of the southern part of California, and if the banana and guava will live there throughout the year they will, we think, produce abundantly and almost regularly here. We observe, also, in the same report, that in Victoria county, Texas, the pecan trees (which deserve more attention than they received in California) will produce a crop this year worth five times as much as that of the cotton fields.

REMARKABLE WHEAT GROWTH IN YUBA.—Yesterday, says the *Marysville Appeal*, of the 6th instant, we were shown a sample of second growth wheat from the ranch of Wm. Davy, of the Columbus House, Strawberry Valley in this county. This field of

seven or eight acres has been cut for grain, and from the seed shelled on the ground in harvesting, the sample of the second crop was cut a few days since. The second crop was cut for hay, but judging from the sample shown us, had it been left standing longer would have made excellent grain. The variety is the white Chile, and the heads are from four to six inches in length. Our informant picked out the most forward heads (the crop was then standing) which of course could not be considered a fair sample of the whole field; though, without doubt, the whole field would have yielded from this crop fifteen bushels to the acre. A few years since, the ground whereon this grain grew, was covered with a dense growth of heavy pine timber. Springs in abundance watered it and made it rather boggy. Mr. Davy went to work, felled the timber, cleared the land, underlaid it with blind ditches, and now has one of the most productive ranches in the State. From the wilderness Mr. Davy has wrung a very productive farm, a cozy home, and a competence by his energy and industry.

WASTE OF FRUIT—ITS USES.—A few days ago, says the *Sacramento Union*, the papers of Nevada county were regretting the wholesale waste of fruit in that section for want of a market. This was followed by an announcement from San Francisco that a very large quantity of fruit of many descriptions had been thrown in the bay. These items would indicate a glut at the fountain-head where the fruit is grown, and at the chief market where it is sold. The economist can scarcely realize the cause of this state of affairs, and he is still more puzzled when he inquires at the stands for fruit and is charged twenty-five cents a pound for figs and twelve cents for Hamburg grapes, and that too in the heart of a region that has the capacity to furnish both these articles in such abundance to supply a nation. The price of an article is supposed to be regulated by the supply and the demand, and high prices are generally an indication or scarcity of great demand. The natural inference of a stranger in the country, on inquiring the prices of fruit at the stands in this city and San Francisco, would be, that where fruit bears such extraordinary prices, there must be something rotten in more senses than one, or tons of the best fruit the world ever saw would never be allowed to go to waste or be thrown into the ocean. There is a rottenness in the way of doing business in the country which produces rottenness also in fruit that ought to be used to a greater extent by the people than it is, instead of going to waste. We are confident that three-fifths of all the people of even California, where the production of fruit is commensurate with any demand, and where its cultivation is of the greatest ease, are not supplied with the article to the extent that diet in a hot climate like this requires. If it were afforded cheaper larger quantities would be consumed.

CROPS IN INYO COUNTY—ALFALFA ON ALKALI SOIL.—The editor of the *Inyo Independent* recently visited Mr. Vaght's farm just beyond Camp Independence and reports as follows:—We saw good crops of corn growing on ground from which a crop of hay had been previously cut the present season; also, a luxuriant growth of alfalfa produced from lowground which, previous to plowing, was literally white with alkali efflorescence. Indeed, from the excess of alkali shown on this piece of ground we doubt whether any crop but alfalfa could be grown upon it at all. For this purpose it is equal to the best. A large number of hogs are alternately pastured on two small fields of clover, a change from one to the other being made about once every two weeks. The two weeks undisturbed growth, after being pastured down, is sufficient to produce a good crop of hay; so that considering the great amount of pasturage it affords, its hardy growth, particularly upon otherwise worthless alkali soils, this grass is deserving general attention from farmers and dairymen. We may mention here, however, that black alkali lands are not fit for this clover, or perhaps any other crop. The essential conditions of farming here in this valley vary somewhat as do those of mining, different localities requiring different processes, or at least, similar methods do not produce similar results.

Mr. Vaght has a number of varieties of grapes, peaches and other fruits, all producing remarkably well. His grapes are as large and juicy as those of any other part of the State, but not so sweet. His peach trees were literally loaded with fruit of the best quality; and altogether, we know of no reason why this section may not be ranked as first-rate for fruit of all kinds, and also, as evinced by the number of chickens, ducks and hogs to be seen

about, Mr. Vaght's farm, no less for the production of these kinds of small deer.

INYO AT THE SOUTHERN DISTRICT FAIR.—The *Independent* speaking of the proposed Southern District Fair which is called for the "five southern counties says:—Inyo is not one of the five southern counties—in fact, don't belong anywhere in particular, except as a sort of make-weight to Tuolumne for certain political purposes—but still, if we can claim any identification of interests, agriculturally or otherwise, with any county, it must be with Los Angeles. It is to be hoped that somebody will represent us in this Fair in some suitable manner. Was it not that some of our best fruit will then be out of season we could compete well with them in that particular. If wheat of the present season equals some that was raised here last year it will certainly equal, if not excel, anything of the kind they will have there. Besides this and some other things we could name, if our miners are so disposed, our showing of minerals could be made to astonish them, and ultimately, be of much advantage to the mining interest. It is to be hoped this matter will receive the attention its importance demands.

TWIN WATERMELONS joined together a *la* Siamese have been raised on Mr. Hough's ranch, San Miguel cañon, Monterey county.

SMALL FARMS.—Some 15 or 16 farms of 16 acres or less, each which are now being surveyed on the Castro Ranch, and will soon be placed in the market for sale.

THE SUSCOL ORCHARD.—The *Vallejo Chronicle* is authority for the item which we copy from the *Bulletin*.

GOOD CULTIVATION.—Mr. John Findley says the *Ventura Signal* has shown us some potatoes grown on his land near town, which have rather a novel history for this county. They were planted first on December 23rd of last year, and by good and careful cultivation were matured and dug about the first of May. Between that time and the middle of June, the same land was again broken up, and seeded from the crop just raised. The second crop is amply large for new potatoes, and there is a certainty of their maturing. This result was obtained by early planting and thorough cultivation, on ground by no means of a moist description and without irrigation. We think this is pretty good for a dry year.

OREGON.

ACTIVITY IN AGRICULTURAL MATTERS.—The fall rains have already commenced in Oregon, and the ground will soon be in order for the plow. It is thought, with favorable ather double the acreage of wheat will be put in the coming fall that was sown last season. This impetus to the increased cultivation of wheat is due to the present and prospective high prices of cereals. Other farming interests are also prosperous; much more land is being cleared up for the plow; flocks and herds are increasing, and the root and fruit crops are not likely to be overlooked in their season. In fact, there is a general activity manifested everywhere.

THE STATE FAIR opened at Salem on Monday last and closes to-day. We have no report from it as yet; but from the active interest which has been manifested we have no doubt that it has far exceeded in interest and usefulness any fair which has preceded it.

Among the curious as well as useful things which were to be exhibited on this occasion, was a mammoth cake of chemical olive soap which weighed one ton!

Much attention has doubtless been paid to the exhibition of stock, as there is quite as much interest manifested in improved stock in Oregon, as is shown in this State. We inadvertently spoke of this fair, last week, in a wrong connection.

LARGE GRAPE LEAF.—A. F. Davidson will exhibit at the State Fair, a grape leaf, of the Diana variety, which measures from point to point of middle lobes 12 inches; from base to apex 8½ inches; from lower portion of depression to apex 11 inches; from the lower portion of the leaf stalk to the apex of the leaf itself 14½ inches. Mr. D. thinks this the largest grape leaf that can be produced, but invites competition. He will show several leaves of the same size.

LARGE BEET.—The *Jacksonville Times* has been shown a beet grown in Jackson County, which measured 2 feet 2 inches in length, and 1 foot four inches in circumference.

SALES OF BLOODED SHEEP.—The *Statesman* says that Mr. John Minto has lately sold 25 thoroughbred Merino bucks to Mr. Nye, of Dalles City. T. L. Davidson has sold 10 to the same party. Mr. Nye is purchasing extensively for the improvement of his own flocks and those of his neighbors.

IRRIGATING CANAL.—Capt. J. F. Miller and others, have been incorporated into a company for the purpose of constructing a canal from the lower end of Big Klamath Lake to terminate in smaller water ditches for irrigating and manufacturing purposes.

SAVING THE STRAW.—The farmers are generally saving large quantities of straw for feed during the winter, in consequence of the high price of hay.

FRUIT IN WALLA WALLA.—Ten years ago there were no fruit in the Walla Walla county except a few seedling apples on the Mission farm. Now there is an abundance and the best of all kinds.

THE SALEM AGRICULTURAL works are fast progressing toward completion. The main building will be 115 feet long by 60 wide—two stories, with a basement. A foundry and blacksmith shop will be joined to the main building—the former 100x60 feet, and the latter 100x40. This, when completed, will be the most extensive agricultural implement manufactory on the Pacific Coast.

The *Statesman* says that a manufactory of Gorham's, patent broadcast sower will be started at Salem.

PROLIFIC TOMATO.—The *Willamette Farmer* says that a tomato twig was recently clipped from a vine raised by Dr. Payton, which contained twenty-four tomatoes, and weighed five pounds. There was no room for leaves on the twig. The tomatoes were not fully grown, yet they were crowded so closely together as to form a nearly round bunch. There was another branch of ripe tomatoes clipped from the garden of T. M. Gatch, on which were five tomatoes, weighing three and a half pounds. It is not a barren soil that produces such vegetable growth.

ARIZONA.

MARICOPA COUNTY.—A correspondent writes to the *Arizona Citizen*, Sept. 3d:—Number of acres of barley sown, 2,200; average yield 1,200 pounds—good. Wheat, 1,200; average yield, 1,300 pounds—good. Corn, 700 acres, not yet harvested. Much of it looks well, but as we have had little rain, we do not look for a large crop.

Sweet potatoes, 75 acres, not yet harvested. Many of them planted too late.

The writer is of the opinion that more injury has been done to the crops by too much water [irrigation] than by too little, and finds his opinion shared by many farmers.

It seems impossible to raise a good crop of corn here unless we have rains. The dry, hot winds and sand storms are the principal cause of failure. Sweet potatoes seem to be well adapted to this climate, and their growth is remarkable when put out in good time.

About 200 acres of beans have been planted. At least half of them will amount to nothing, unless the late planting does better than the early.

Garden vegetables of almost every variety do well when they are cultivated with proper care, and an abundance of them have been raised this season.

Several vineyards have been started, and promise well. Only two have borne grapes this season, and although it is but the third year since the planting of the cuttings, I never saw vines more prolific.

About 3,000 fruit trees have been planted the past season, and those which arrived in good condition have rarely died. With only one year's experience, we cannot tell what kinds of fruit will do best, or whether all will succeed. The growth is not large for the first season. They have taken a long rest through the Summer and the full growth may be greater than we expect.

MISCELLANEOUS.

CATTLE DISEASE IN GREAT BRITAIN.—To the misfortune of a deficient harvest in England is to be added the disaster of the cattle plague. The foot and mouth disease is spreading among the horned stock of the Kingdom with deplorable rapidity. Northamptonshire, Cambridgeshire, and Huntingdonshire, are the three English counties chiefly affected. In Preston, up to Saturday last, 5,870 cattle had been attacked. It had already spread over thirteen counties. It is also spreading in Ireland. The number of animals suffering is estimated at 25,000, but the pest involves sheep and swine. Besides this disease pleuropneumonia has appeared. This deadly malady is ravaging the herds in thirty-one counties of England and thirteen of Scotland, and doing a certain degree of damage in Ireland.—*Oakland Transcript*.

NEBRASKA is exultant. "The Great American Desert," which, according to legend and erroneous present opinions cannot raise fruit, took the field against the Union in the pomological exhibition at Richmond, and bore off the palm.

NOTICES OF RECENT PATENTS.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

BEDSTEAD.—E. T. Barlow, San Francisco. This invention relates to an improved device for fastening the side rails of a bedstead to the head and foot posts, and for other similar fastenings, and it consists of two plates, each of which has one end formed into a hook. One of these plates is fastened to the upper edge of the rail, and extends beyond so that its hooked end shall enter an upward curving recess in the post. The other plate hooks into a similar recess in the post at the bottom of the rail, and is forced upward against the bottom of the rail and then secured, thus binding the rail firmly between the two plates.

NOZZLE FOR OIL-CANS.—Sharron P. Doane, San Francisco, Cal. This improvement consists, first, in the employment of a wire gauze partition through which the oil must pass before reaching the nozzle, in order to intercept any dirt or other particles which would otherwise lodge in the small end of the nozzle and choke up the passage. It has, secondly, for its object, the employment of a sliding punch which moves along the nozzle and forces out any dirt which may have accumulated by accident or otherwise in the small end. This invention is especially useful, as the nozzle often becomes clogged by dropping the can, and is frequently broken off to save the trouble of cleaning.

WASHING MACHINE.—Henry Elford Lea, Half-Moon Bay, Cal. This invention relates to an improvement in washing machines, and it consists of a containing box for the clothes, and within which in a revolving slat or perforated drum or cylinder the clothes are placed. A combined water boiler and furnace of peculiar construction stand at a short distance from the box and pipes which communicate between it and the boiler so as to keep up a continual circulation of hot water and steam between the two, and this in connection with an occasional revolution of the slat or perforated drum or cylinder, accomplishes the washing in a short time.

IMPROVEMENTS IN THE MANUFACTURE OF DENTAL PLATES.—Francis M. Shields, Sacramento. The object of this invention is to provide an improved process and apparatus to be employed in the manufacture of artificial dental plates from the metal aluminum. The process consists, first, in casting the plate at two operations, so that while the teeth are securely fastened to it, they are in no danger of being broken or displaced by the contraction of the plate in cooling. The apparatus consists of a flask suspended on trunnions so as to swing between standards. The flask is of proper shape and its exterior conforms to the shape of the model so as to avoid fracture. A curved pipe rises from the top of the flask and carries a crucible at its outer end, within which a sufficient quantity of the metal is fused for a plate. An air pipe enters one side of the curved tube and through this a pressure is brought upon the metal sufficient to cause it to thoroughly fill the matrix. Small upright tubes arise from the cover of the flask and by means of minute holes in these it is possible to know when the mold is full. The process and devices are exceedingly interesting and valuable.

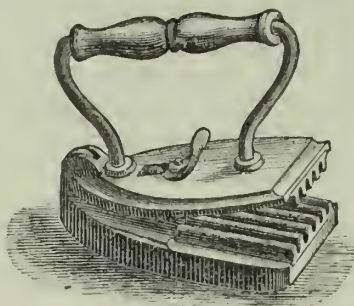
ANIMAL TRAP.—John H. Mooney, Geo. A. Lloyd, S. F., Cal. The object of this invention is to provide an improved trap, chiefly useful for gophers, squirrels, etc., and it consists mainly in the employment of two rods moving parallel through a suitable supporting frame. These rods are connected together at their rear ends and their front ends are armed with sharp points. A spring is so arranged as to throw the rods forward if the holding catch is disturbed, after being set, and by a peculiar arrangement of mechanism the upper one of the rods is made to describe an arc with its forward end as it shoots out, thus reaching over and grasping the animal which has approached the trap. This device is

very simple and effectual, especially for gophers, which it always seizes, notwithstanding the load of dirt which they always push before them and which generally springs other traps without catching them.

IMPROVEMENT IN HORSE POWERS.—R. J. Cheney, Petaluma, Cal. The object of this invention is to provide an improvement in horse powers, by means of which, a brake can be readily applied, and it consists of the usual frame supporting the horse power with a central hub, about which the master wheel turns. A nut is affixed to a portion of the frame, and a rod is arranged to screw down through this nut. A plate is fixed to the lower end of this rod and bears upon the tumbling rod when screwed down and thus regulates the speed of the machine.

Patent Fluting and Ironing Machine.

This little instrument is intended to answer two purposes, that of a polishing and a fluting machine. It is made of good material and highly polished; the fluting



apparatus made of brass is also well-finished. The construction and manner of using may be seen at a glance by referring to our illustration. A hinge at the point serves to connect the handle and bottom, where it is necessary to use for fluting, and when used for ironing it is closed and held in its place by a key, or catch, placed on top. When the iron is ready for use of course the fluter is also warm enough so only one heating is necessary. The machine flutes collars, cuffs and ruffles of every description, without injuring the fabric and with very little trouble. It is not intended for laundries or places where a large amount of fluting is done, but for family use where a machine of this kind would be likely to be a convenience in "doing up" laces, collars, etc. Weister & Co. are the general agents for this iron on the coast, and further information as to cost, etc., may be had by addressing them at No. 17 New Montgomery street.

NITRO-GLYCERINE does not seem to become any more civilized as it mixes in scientific society. We read, in a German publication, an extraordinary account of the explosion of only ten drops of this substance, which a pupil in a laboratory had put in a cast iron saucepan, and heated with a Bunsen gas flame. The effect of this explosion was that the forty-six panes of glass of the windows of the laboratory were smashed to atoms, the saucepan was hurled through a brick wall, the stout iron stand on which the vessel had been placed was partly split, partly spirally twisted, and the tube of the Bunsen burner was split and flattened outward. Fortunately none of the three persons present in the laboratory at the time were hurt. When nitro-glycerine is caused to fall drop by drop on a thoroughly red-hot iron plate, it burns off as gunpowder would do under the same conditions; but if the iron be not red-hot, but yet hot enough to cause the nitro-glycerine to boil suddenly, an explosion takes place. —*Scientific American*.

LACK OF WATER.—The unusually dry summer that we have had this year has been a serious drawback to mining operations in the State, and there is a general complaint of a want of water. Both water and steam mills are idle in many places, and all that can be done is to get out rock and wait for rain. The gravel deposits require so much water to work them that many have been abandoned temporarily. If, however, the prognostications of a wet winter prove true, the miners will go to work with redoubled energy, and California will show that her resources in this respect are not yet exhausted.

HINTS FOR THE FARM.

THE INFLUENCE OF FAIRS.—A correspondent of the *Alta* writing of the Petaluma Fair, says:—The Fair is a thing of the past. Yet in how restricted a sense can it be called past? It is past in the sense that its constituent parts are separated—its members are going back to the shops and fields whence they came; its competitions, jostlings and rivalries are ended; the last strains of its music are floating out upon the air, its tents are struck, and its gates will soon be closed. Yet the purpose of all this gathering of the people, the real business which lies at the bottom of all the week's activity and expenditure, is but just begun.

A great educator is the District Fair—a school in which whatever is valuable in theory is reduced to practice. Thinking men go back home from these gatherings with examples in mind that they will profit from, and lessons to learn which will not be mastered in another year. Thus the Fair in a comprehensive sense is never over—it is always in session.

The noble and beautiful animals have been up to "the centre," received their ribbons, and passed on in gay array. Thomas Starr King once declared, coming from an exhibition of fine stock, that as he stood before some of these handsome beasts, he felt ashamed of the comparison which he was prompted to make between himself and them. He had an admiration of these beautiful blooded horses and cattle, which inspired his tongue to some of its finest efforts. And the man who has no lively sympathy with this feeling, can have but little taste for any form of material beauty.

John Hall, of Alvarado, says it costs him no more to raise a "Norfolk" colt than it would a scrub, except for the foal. If farmers generally thought so, what an element of wealth in the community would the stock of horses and cattle become in a few years.

THE NEED AND PROFIT OF IRRIGATION.—Nowhere has human stolidity been more forcibly demonstrated than in the average farmer's by-gone dealings with water. This mobile, subtle fluid, which will voluntarily travel wherever you will, if you but give it an inch of descent per mile, ought to have long since been absolutely and everywhere at the beck and call of every cultivator. And yet I have stood beside a corn-field parched and withered from drouth, while a mill-stream danced and brawled right through its center, falling twenty feet in a hundred rods, yet moistening the roots of no plants but those of the two rows next its bed on either side, while three day's work of two men would have dammed and diverted its waters so that four or five acres of the corn would have been unrolled and set to growing again by their influence. Whoever travels with open eyes may note a thousand such opportunities in almost any State—a hundred or more in nearly every county.—*Horace Greeley*.

THE FOOTHILLS.—To the Californian who has traveled much through the State this term "foothills" at once suggests a grass covered, gravelly soil, useless on account of the absence of water for any purpose of cultivation. Until recently this had also been the opinion of the ranchmen and farmers. Timo, however, which tries and proves all things, has furnished a different solution, so far as regards at least a portion of these lands, viz: those subject to the immediate influence of the ocean and bay fogs, such as those in Sonoma, Marin, and the lower parts of Napa and Solano counties. They are found to raise grain, and several kinds of vegetables. While the crops on the plains and flat lands have proved almost an entire failure this season, grain sown on the gravelly ridges adjoining these plains, is almost without exception, giving most satisfactory results.—*Call*.

AGRICULTURAL PAPERS ALWAYS PAY.—In the experience of publishing an agricultural paper about 20 years, says the editor of the *Rural American*, we have never heard of a man who was a subscriber, say at the end of the year that he had not got the worth of his money. Nor did we ever hear of any subscriber to any good, reliable agricultural publication, complain that he was not paid for the trifling cost of it. Mr. Clark Bell in his address before the Stenben Co., N. Y. Agricultural Society, said:

"The farmer should, of all other men, take a good, reliable, agricultural paper. I defy any farmer to try it for a year and then be able to say it has not paid and been in every way for his good."

KEEPING ONIONS.—Onions are often injured in winter by keeping them in too warm a place. They will seldom be injured by frost if kept in the dark, and in tight barrels or boxes, where not subject to frequent changes of temperature. It is the alternate freezings and thawings that destroy them, and if placed in a position where they will remain frozen all winter, and then thawed out slowly and in a dark place, no considerable injury would result from this apparently harsh treatment. Onions should always be stored in the coolest part of the cellar, or put in chaff, and set in the barn or some out-house.—[*Rural New Yorker*.]

AN EXTENSIVE FARMER.—A farmer near Wells, Minnesota, has 1,400 acres of wheat, 1,250 of flax, 800 of oats, and 400 of corn. About 4,400 acres altogether are under cultivation. He has set out 80,000 cuttings, cottonwood and white willow, and 18 miles of fencing, consuming 40,000 pounds of wire and 20,000 posts. He owns twenty brick farm-houses, with barns and other improvements, and expects to open twenty new farms this summer, putting up the necessary buildings for each.

PLANTING TREES.—In Iowa the planting of trees is encouraged by law. Every acre of forest trees planted, releases taxation for ten years on one hundred dollars valuation, and for each acre of fruit trees planted, tax is exempted on fifty dollars valuation for five years, and the same for shade trees and hedges along the highways. There are now maple forests in several counties, from which sugar is made, where fifteen years since was nothing but prairie grass and hazel shrubs.

POTATOES are said to be the best milk creating food that can be given to cows. Many are deterred from feeding them, fearing to choke their cows. A farmer told us lately that he had fed potatoes to his cows in the lowest part of his corral, in a low box on the ground compelling the cow to masticate them before attempting to swallow. He said the plan worked well, as he had never had an accident happen.

TO LAY DOWN EGGS.—Fill a kettle with water and let it boil. Then fill a corn popper with eggs and immerse them in the water, not holding them in more than a second. Pack them in bran or paper rags, little end down, and they will be good when hens lay in spring. This is a very simple and effective plan.

KILLING WEEDS ENRICHES THE SOIL.—This is the key-note to good farming. Most of our soils abound in latent plant food. Stirring the soil and exposing it to the atmosphere, favors decomposition, and renders the plant food available—in other words, makes the land rich. The fall of the year is the best time to do much of this work. And the earlier we can get at it, the better.

HOW TO IMPROVE MUSTY WHEAT.—A correspondent of the *Rural New Yorker* had a lot of wheat get musty in a pile. He says: "I put it on my hop kiln, dampened it slightly with water, put a fire under it with brimstone on the stove. When it cooled off, I found the mustiness had entirely left it. We tried it for bread, and it made as good as any wheat."

SOME idea of the injury caused by insects to agricultural products may be formed from the statement that, from seventy-four tons of Spanish wheat stored in a granary, ten hundred-weight of beetles were screened out in one instance, and in another thirty-five hundred weight were removed from 145 tons of American corn. The offender in both cases was a weevil, known as *Colandra orser*.

DEAD animals are utilized in France by immersing their soft parts in a very feeble solution of hydrochloric acid, which soon transforms them into an odorless pulp. This is to be mixed with phosphate of lime and the result is a manure of the best quality.

J. J. THOMAS says that fortunes are lost by farming in three ways: In badly wintering stock, in want of proper attention to rotation of crops, and in raising weeds. He calculates that it is easy for a farmer to lose \$20,000 in forty years by raising weeds.

A GOOD FARMER will never be satisfied with his farming until he is confident his land grows better and better every year.

RICHES and honor have accrued to every country where agriculture has been regarded as the first of professions.

USEFUL INFORMATION.

VEGETABLE LEATHER is now extensively manufactured, the principal materials being caoutchouc and naphtha. The product is only one-third as costly as ordinary leather, which it resembles so nearly that they can be distinguished only by close inspection; and the vegetable leather has the additional advantage of being made in entire pieces fifty yards in length if desired, one and a half yards wide, of any thickness demanded, of uniform quality and ample strength. It has but little odor, that of the naphtha being subdued in the process of manufacture. It is proof against the effects of moisture, and a nail will not scratch the surface. For book-binding, covering for writing desks and tables etc., it is especially adapted and largely used.

LEATHER BOARDS.—Within a few years past, refuse leather, in the form of cuttings, sorapings, etc., from shoe and harness factories, has been utilized by being converted into leather boards, which are extensively employed at the present time in the United States and Europe for the manufacture of inner soles of shoes, and for other purposes, where the material is not likely to be exposed to the wet. The process of preparing these boards consists in first cleaning the scraps, so as to free them from all foreign substances, and then softening them for a time in water, to which is added some adhesive substance such as gelatine. After being sufficiently softened the scraps are laid upon tin plates of the proper size, having a rim all around, and arranged longitudinally and transversely, so as to make the strata nearly even, until the required thickness is obtained. A number of these plates are then placed one upon another and subjected to a hydraulic pressure, until the separate fragments are united into a nearly uniform mass. After these layers have dried sufficiently, they are passed under a roller, so as to smooth them off and give to them the external appearance of the original leather.

THE MANUFACTURE OF KNIVES.—Few people have any idea through what a number of hands their pocket-knives have passed in the process of manufacture. A bar of steel destined to furnish a number of blades, is heated to redness. A length is cut off, and the forger speedily "moods" this—that is, shapes it roughly into the form of a pocket-knife blade. Another heating is then required to fit the end for being fashioned into the tang and yet another before it can undergo the further operation of "smithing," the last stage of which is the stamping of the mark of the thumb nail to facilitate opening. The tang is then ground and the blade marked with the name of the firm. The slight bulge on the reverse side caused by this operation is removed by fire or the grindstone. The blade is then hardened by heating it to redness and then plunging it into water up to the tang. The tempering process follows next, the bluish yellow tint being considered as indicating that the proper degree of heat at which to immerse the blade once more in cold water has been attained. After this the various kinds of blades are classified in the warehouse and undergo sundry grinding operations to fit them for being hafted. Twelve distinct processes have by this time been gone through, and many more are necessary before the knife is completely finished, although the number of hands which it has now to pass through depends in a great measure on the finish to be given to the handle, according to the quality of the blade with which it is fitted, and the price which the completed article is intended to realize.—*Engineering and Mining Journal.*

PEARL MANUFACTORY.—The Chinese have, for centuries, carried on a well organized system of manufacturing pearls. The invention was made early in the 13th century, and they still honor the inventor with a temple, and acts of ceremonial worship. The French pearls, which excel all others in the beauty of their imitation, are manufactured, in the first instance, out of the scales of tiny white fish, which abound in the small tributaries of the Seine and Marne. It takes from seventeen to eighteen thousand fish to make one pound of the famous *essence d'orient*. It is curious that the nearest cognate substance to the pearl is bezoar, a concretion of deep olive green color, found in the stomachs of goats, dogs, cows, and especially of camels. The bezoar used to be a valued talisman.

Five persons to each house is the average number developed by the British census.

To a poor man, poverty greater than his own never appeals in vain.

About India Rubber Shoes.

The first pair of India rubber shoes ever seen in the United States was brought here in 1820. They were gilt, and were pointed like the slippers of a Chinese mandarin. This pair, which were handed about as a curiosity, were followed, in 1823, by an importation of five hundred pairs, which, rough and ill-shaped as they were, were eagerly bought at high prices; and from that time onward, there was a regular importation of India rubber shoes from South America, of five thousand pairs per annum. It was the high prices which these shoes commanded, as compared with the extreme cheapness of the raw material, that caused an India rubber mania in the Eastern States. A company started at Roxbury, Mass., with a capital of three hundred thousand dollars, with extravagant expectations of its stockholders. The company met with unexpected difficulties. Shoes made in winter melted as soon as the summer came. When exposed to the cold, they grew as hard as stone. And what was worse, no one could tell of the winter made shoes whether they would stand the summer heats or not. The company feared to manufacture a large quantity, since the first hot week in June would melt the product of eight months' labor as readily as a single pair of shoes. The want of a way of curing or hardening this singular substance obliged the Roxbury company to wind up its affairs, which ruined a large number of the people of Massachusetts.

WATER WORKS OF ROME.—In old Rome there were nine aqueducts to supply the city with water, and the amount furnished for each inhabitant could hardly be less than three hundred gallons daily, or more than six times as much as is supplied to each person in London at the present time. One of their aqueducts was fifty-four miles long, and one forty-two miles long. No modern city ever had such perfect arrangements for baths and perfect cleanliness as Rome. The Roman sewers for carrying off the filth of the city were also more perfect. The main one, *cloaca maxima*, had a series of small channels flowing into it from all parts of the city, rendering the drainage most complete.

SWANS SINGING.—The singing of swans has been supposed to be a fiction; but John A. Hjaltalin, an Icelander, writes that he has often heard them sing in one of the firths of Western Iceland, where hundreds of them congregate. In the morning and evening their song is so loud that it can be heard miles away, and the mountains on both sides ring with the echo of it; for each individual seems to join in the chorus. The singing has not the slightest resemblance to the cackling of geese or the quacking of ducks. It is clear and full, and has a metallic ring. The notion that the singing is sweetest just before the swan's death is prevalent in Iceland. Their nests are in small inland lakes or tarns, only one pair nesting at a single lake.

TO ELECTROTYPE ON CLOTH.—For the purpose of coating fabrics and tissues with metal, such as copper, silver, and gold, the material is first to be impregnated with a solution of sulphate of copper, in ammonia, and then dried. After drying, the whole is immersed in a warm solution of grape sugar, which develops oxide of copper, upon which silver, or gold can be electroplated in the usual way.

AMERICAN WONDERS.—The largest city park in the world is in Philadelphia. It contains over 2,000 acres.

The greatest grain port in the world is Chicago.

The longest railroad in the world is the Pacific.

The greatest mass of iron in the world is the Iron Mountain, of Missouri.

The largest aqueduct in the world is the Croton Aqueduct, New York.

TO KNOW A REAL DIAMOND.—The real diamond, though brilliant, is not transparent. When a diamond is polished, before it is set, its genuineness may be ascertained by laying it on a newspaper. If the stone hides the letters, it is real; if they shine through and are visible, the diamond is paste, rock crystal, or other imitation.

The number of horses in Russia is greater in proportion to the population than it is in our greatest horse region—Kentucky. Russia has one horse to every three persons. Kentucky has one horse to about four and a half of its population.

TACKS.—In the United States there are two hundred and fifty different kinds of tacks manufactured from brass, copper, zinc, and steel.

GOOD HEALTH.

DIGESTIVE PROPERTIES OF FRUITS.

With the exception of strawberries, there is no dessert fruit, produced in a wild state, easy of digestion. The crab-apple and sloe, the parents of the cultivated apple and plum, are wholly unfit for use, except in the shape of jams, or preserves, with a plentiful addition of sugar to correct the astringent nature.

Commencing With the Apple—

the fruit in most general use, of which we have many varieties—the best being suitable for different purposes, but all containing more or less of saccharine matter, acid, mucilage, soft woody fibre, and water, the quality of the fruit being dependent upon the proportion in which one or the other of these prevails. The aroma of apples, on which their flavor seems to depend, is supposed to act as a mild stimulant, and to assist digestion: therefore those apples which have the finest flavor are the most esteemed. The mellow sorts abound in this quality, and they also contain a greater ordinary proportion of sugar and mucilage, consequently are more nutritious. Pippins and all hard varieties possess much woody fibre, difficult of digestion. The dry mealy kinds, although not much relished, are highly nutritive, while the watery sorts are generally crude, cold, and ill adapted to weak stomachs in their raw state.

But apples of very inferior quality are made palatable and wholesome by the application of heat, and the fruit of apple pie if not too much spiced, or even the roasted apple, is highly nutritive and digestible. Before this fruit is subjected to heat, it is composed of a great number of little cells and vessels, containing the acid juice and the pulp—probably in a separate state. When heated, the juice expands and bursts through the cells, as the temperature increases, the watery portion of the moisture is partly converted into steam, and evaporates through the rind.

When the acid and pulp of the apple are thus set free from their confinement, they enter into more intimate union, and the taste of the acid is mellowed by its mixture with the pulp, in the same manner as rum is mellowed by being mixed with milk: as the pulp also contains saccharine, this is disengaged by the heat, and mixes with the acid.

Ripe, sweet, and mealy apples, produce a laxative effect on the bowels, while those which are sour and astringent should be avoided by the sedentary, as they are apt to induce costiveness, griping, and flatulency, particularly when eaten after meals by persons indulging in wine and spirits.

Pears

have but little of the acid usually found in apples, but they generally possess more saccharine, and also more woody fibre which renders some kinds indigestible. Those which are not hard and solid contain along with their sugar, a considerable proportion of mucilage, which—although nourishing—is apt to ferment in the stomach and produce flatulence. The *Maria Louisa* and *Old Burgundy* are of easy digestion, the former perhaps the best and handsomest pear produced, and these when ripe may be eaten freely being sweet, mellow, and laxative, and very salutary to some constitutions, but heavy to cold stomachs when taken in excess. The very hard sorts should be prohibited to the weak, and moderately indulged in by the robust, having little nutriment, and their great quantity of woody fibre serving to overload and fatigue the stomach.

Strawberries.

The strawberry was esteemed by the late Dr. Abernethy as the most wholesome of all fruit, "balsamic and refreshing, and one of the most precious gifts of Providence!" It is mildly acid, contains a medium proportion of sugar and mucilage, and the seeds act on the bowels similarly to those of the fig. In some cases the seeds are said to have accumulated in the stomach and produced an alarming disease. The occurrence is rare, however, and need no more deter us from eating strawberries than the fact of a person being choked with fish-bone should deter us from eating fish. According to Linnæus, strawberries are an excellent prevention of gout and gravel. Wine is supposed to be injurious to the beneficial action of strawberries when taken in connection, and the usual appendage of cream and sugar, although highly nourishing to the robust is not adapted to weak stomachs. The fruit should not be too freely indulged in after dinner, or any other full meal. In warm weather strawberries

are very grateful for breakfast or lunch, and a foreign fashion has lately been adopted: it is as follows:—Take off the stalks from as many berries as will form one layer at the bottom of a dish; sift some fine loaf-sugar over them, then place another layer, and sift again, each layer being smaller than the other, and the heap raised in a pyramidal form. When you have several layers squeeze the juice of a fresh lemon over the whole. Before they are served out, they should be gently disturbed so as to receive the full benefit of the lemon juice and sugar. They may be eaten heartily when thus prepared, without danger.

Raspberries

resemble strawberries in most of their qualities, and may be used in the same manner; but their flavor is so strong to be agreeable when eaten fresh; they are, therefore, mostly used for tarts or preserving. In pickling, great care must be taken to abstract the small worm which will generally be found on withdrawing the stock when quite ripe.

Gooseberries

according to Dr. John, an eminent continental chemist, the analysis of this fruit gave the following substances, but in what proportion he does not state: Water, sugar, citrate of lime, ditto of potash, resin gum, fibrin, ammonia, phosphate of lime and phosphate of magnesia. Next to the strawberry the gooseberry is esteemed as the most wholesome and digestible of our native fruits. Like that, it possesses a good mixture of sugar and acid, but abounds more in mucilage and hard seeds. The skin besides is astringent, acid, fibrous and indigestible; from the latter of which qualities it acts upon the bowels by irritation, and proves laxative; for which reason some have recommended the skins to be eaten. Of this we do not approve, for the seeds answer the purpose sufficiently well without loading the bowels with a mass of indigestible and irritable substances. Gooseberries are recommended in cutaneous disease—being cooling to the blood—and also in deficiency of bile. Heat, whether applied to the stewing or baking proves (as in the case of apples) an excellent corrector of the crude juices of unripe and inferior fruit, and green shoots of rhubarb, which are likewise sub-acid and saccharine, make a wholesome addition to pies and puddings in the early part of summer.

RAIN WATER is very impure and unfit to drink until it is filtered, either through the soil, or by artificial means. Rain-water, especially that falling upon cities brings down with it much dirt which has been floating in the atmosphere—such a soot, earth and vegetable dust, ammoniacal salts, acids of various kinds, etc. In the country, rain-water is less impure. In this State the water of the early rains is much more impure than that from the later. The matter thus brought down exerts an important fertilizing action upon the soil.

Water, if very bad, can readily be examined in reference to its purity by carefully inspecting it with eye. If it is not perfectly clear it is impure. Much can also be determined by the taste. No water is good that tastes or smells badly. The microscope and analysis are, however, the only perfectly reliable means of testing it. No water is absolutely pure unless it is made so by careful distillation.

THE TAPEWORM.—It is very seldom that persons are affected with a tapeworm who eat their meat well cooked. The cyst that develops parasites is killed by thorough cooking. The tapeworm is usually developed from a cyst found in mealy pork. When this cyst passes uninjured into the human stomach it soon develops into a worm. As the joints mature, they are cast off. If these joints, when living, find their way into the stomach of a hog they then lay their eggs, which are developed into cysts, which work their way into the flesh of the animal, where they remain without any further progress toward development until they find their second home in the human stomach, and again take the round. It is thus that this troublesome parasite is kept up. They have also, though recently, been known to develop in the bovine species.



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SAN FRANCISCO:

Saturday, October 14, 1871.

Our Weekly Crop.

Our readers are invited to inspect the new Rural Cottage which we have just erected in a pleasant nook upon the old homestead farm. They will find it a model of beauty, convenience and cheapness. The latch string is out, so please enter and inspect; we think you will be pleased with the arrangement above and below. You will find a space devoted to the favorite industry of Silk Culture in California, and here you may also learn all about California Fruit at the East, and look over our ever increasing library of Mechanical and Scientific Progress.

Our letters have just come in. The first we take up is an interesting description of a visit to Montana; the next contains some account of Irrigation and Corn Culture in Los Angeles; while another gives us some interesting Notes of Travel in Santa Cruz, and a fourth furnishes a brief report of the Santa Cruz Farmers' Club. We also find in this package an interesting collection of Miscellany.

Stepping into another room we find some brief Notices of Recent Patents, learn all about the California inventions for the week past, and examine a new household novelty in the shape of a Patent Fluting and Ironing Machine. We also find some valuable Farm Hints and gather up much other Useful Information, much of which we may turn to the account of Good Health. Opening another door we find a curious, worm-shaped creature which our farm captain has just extracted from the throat of one of the cattle; and he gives quite a lecture on the occurrence of Parasitic Worms in the Windpipes of Farm Stock. The information here obtained is of special value just at this time, when so many mysteries and fatal diseases are attacking our stock, and is well worthy of A Golden Compliment.

Passing out into the field we examine some curious trees which our head gardener has just set out—beans upon trees, sure and certain! Yes, here we have it—The Mexican Mezquite Bean—food for man or beast, and just the thing needed at this time of scarcity and high price of food.

And here we come again, to that cosy little retreat—the Home Circle, where we listen to an interesting story about Robert Maxwell's Temptation, and many other things useful and interesting in the management of a well ordered household.

We are next presented with a brief account of the Upper Sacramento Valley Fair, and receive a new batch of Premiums for our friends who exhibited at the State Fair, in awarding which the officers have endeavored to do the square thing by all who aided in giving interest and value to that wonderful exhibition of California Products and Industry. And now, after looking over the reports of the Produce Market, we bid adieu to our ten thousand readers until Saturday next.

ANOTHER.—A Colusa wool grower has realized an average of six pounds to the fleece, for his entire fall clip.

PARASITIC WORMS IN THE WINDPIPE OF FARM STOCK.

Some time since we published a letter from a gentleman, who complained that his young cattle were dying, and that the apparent cause of death was found in some small worms, which occupied the air passages of each one of the victims. Our correspondent wished to know what the worm was, and what he could do to prevent its ravages. We think that we can now answer his questions, although we fear not quite to his satisfaction, as but little encouragement can be given to those who have cattle infected with these parasites, and hope to cure them.

The worm is probably the same species that has been causing serious mischief among the herds of New York during the past season. Many young cattle have died there with the symptoms of pneumonia, at a time of the year when that disease was not to be expected. A post-mortem examination showed, as in the case of the cattle belonging to our correspondent, that the inflammation of the air passages was caused by parasitic worms. Some of the worms were preserved in alcohol, and sent for examination to Prof. A. E. Verrill of the Sheffield Scientific School of Yale College. We were in New Haven at the time, and the Professor showed us the specimens, which appeared much like bits of horse-hair, an inch or so in length.

Prof. Verrill is an enthusiast in Zoology, and has spent much time in studying animal parasites. Probably there is no other man in America that understands the subject so well. In 1870 he delivered a course of lectures before the Connecticut Board of Agriculture which were published in the report of that body, and also in pamphlet form, under the title of "The External and Internal Parasites of Man and Domestic Animals."

The Worm Under Discussion

is known among scientific men by the name of *Strongylus micrurus*, and is but one of several closely related species coming under the genus *Strongylus*, as will be seen from the following descriptions which are taken in an abbreviated form from the work mentioned above, as is also our figure, which represents the species known as *S. Filaria*.

Strongylus.

The genus *Strongylus* includes slender, filiform worms, mostly of small size, and often reddish in color. Several of them live in the windpipe and bronchial tubes of various animals, including sheep, deer, cattle, pigs, etc., and when numerous may occasion the death of the animals that they infect, by suffocation.

The body generally tapers toward the head, and sometimes in both directions. The mouth is small, situated at the end of the small head, which is either simple or with lateral expansions. It is sometimes surrounded by small papillae, but is often simple, and either round or triangular, but not enclosed by a hard organ as in some other worms. The oesophagus is enlarged, club-shaped, and muscular.

The male has the posterior portion of the body expanded. (See figure)

The Strongylus of Sheep.

Strongylus Filaria Rudolphi. The present species is whitish, very long and slender. The head is obtuse and without appendages, the mouth surrounded by three small papillae. The caudal pouch of the male is entire, with ten rays. (See figure).

The male is about two and a half inches long, the female sometimes three and a half, though generally not more than two or three inches long. The interior of the body of the female is mostly occupied by two long, convoluted tubes, containing eggs in which the embryos are in all stages of development.

Habits.

This species live in the lungs, air-passages, and bronchial tubes of sheep and other ruminants. They often occur singly or several together, in cavities in the substance of the lungs, producing great inflammation and destruction of the tissue, which often results in the death of a great number of lambs, and greatly injures the health of old sheep, even if it does not actually kill them.

In this way many thousands of lambs are annually lost in England. In this country we have far less information concerning its ravages, but have no reason to suppose that it is less common than in Europe, in localities that are favorable to its development. Sheep infested by this parasite continually cough up the eggs and embryos of the worms. These often adhere to grass or other herbage and may thus be swallowed by other sheep or lambs, and pass directly into the windpipe, or else do so when the cud is raised for mastication. Therefore lambs should never be put into fields or pastures where diseased animals have been kept, but such infected lands should be tilled, or at least left at rest for several months. As soon as an animal gives any indication of the presence of the parasites, by the peculiar cough, it should be separated from the rest of the flock for treatment, or else immediately killed, and the parasites should be destroyed, and not thrown on the ground as harmless, for all these worms are remarkably tenacious of life, and often may even be dried up completely for months, and then revive when moistened.

Remedies.

When these parasites are once lodged, in numbers, in the substance of the lungs, there is probably no reliable remedy whatever. When merely in the windpipe and bronchial tubes, expectorant medicines that will produce a copious secretion of

mucous may be useful. It might be possible to remove them by a surgical operation, opening the windpipe from the exterior, but this would require surgical skill, and would not pay, perhaps, except as a last resort for valuable animals.

The *Strongylus* of Cattle and Horses. (*Strongylus Micrurus* Mehlis.)

This species closely resemble the preceding. The male grows to the length of about one inch and a half, and the female to three inches or a little more. The body is very slender with a simple, blunt head. The caudal pouch of the male has five rays (an important characteristic for distinguishing from *S. Filaria*). It is said to be viviparous.

The habits of this species are nearly the same as those of the last, except that this inhabits the air-passages of cattle, horses, asses, and mules, instead of sheep. It is

much more liable, like the former, to infect young animals than adults. Calves less than a year old are particularly liable to be invaded, and those that are once attacked seldom or never recover. The same remarks, concerning the means of prevention, made under the preceding species, will apply equally to this. If neglected, these parasites increase with great rapidity, and thus the disease which they cause appears like an epidemic, in certain localities destroying hundreds or thousands of animals, while adjacent farms may be entirely free from it.

The Professor goes on to describe four other species of *Strongylus*, one of which inhabits the air-passages of the hog, another the intestines of the same animal, two, the intestines of sheep, and one, the intestines of cattle.

The whole subject of animal parasites is of the greatest importance, and too little understood by farmers and physicians. We hope that our readers will make notes of such cases as may come under their observation, and report to us, with full particulars as to modes of occurrence, amount of mischief, etc. We should be glad to receive alcoholic specimens, securely put up in small bottles, as we have facilities for having them identified in most cases. Some common and destructive parasites are easily destroyed, and we shall be glad to give such information as may be within our reach.

THE GOLDEN STATE Iron Works are making some large hydraulic and screw presses for the vineyards of Eberhardt and Lachman.

A Golden Compliment.

At the banquet given to the American Pomological Society, during the recent session in the city of Richmond, by the Virginia Horticultural and Pomological Society, a number of regular toasts were drank.

Among others, was one, and we believe the only one honoring a single State by name, to our own State, California. It was as follows: "California—The modern or real Hesperides, whose orchards and vineyards, rooted in a golden soil bear a golden fruitage." This is one of the many evidences we notice in the eastern press of the good results of exchange of fruits with the eastern societies. People can only realize the difference between the fruits of the Atlantic and Pacific Coast when they are enabled to see them side by side.

It would seem that some of our pears were very tempting to the representatives of some of the Eastern press, and caused them somewhat to change their notions of the crime of our common parent, committed in the garden of Eden. One of them after having exhausted all his vocabulary in the description of our fruits, exclaimed: "The fact is, if the forbidden fruit was a Bartlett pear, like they grow in California, we ought not to blame mother Eve too much for having eaten it."

Chicago in Ashes!

The most destructive fire which ever visited any community has occurred in the city of Chicago during the past week. That great city which has risen up so suddenly as to become the pride of our land and the wonder of the world has been almost completely destroyed. Nothing is left but the outskirts of the city. The pecuniary loss cannot be less than \$100,000,000, while the loss of life has been terrible. Already 60 bodies have been found among the ruins, and many must have perished, whose remains will never be discovered.

Not less than 100,000 people have been driven homeless and homeless into the fields, where temporary shelters have been provided for them. Several hundred army tents have been provided for that purpose.

The calamity is considered a national one, and the sympathies of the entire people have been aroused in their aid. Provisions are pouring in from every quarter, and money is being raised in all the principal cities and large towns of the country. Upwards of \$50,000 have already been raised in this city, and that amount will be doubled or more.

We have no space for the details, which have already been published in full in the daily papers, and ere this been read by every person in the land. They are terrible and heart-rending in the extreme, and made even more terrible by reason of the diabolical acts of incendiaries, who applied the torch anew, after the fire had fairly subsided. Some eight or ten blocks of the fairest portions of the city were thus destroyed.

RELATIVE FOOD VALUES.—The answers to the queries of our correspondent with regard to the relative values of certain kinds of food for stock, which should have appeared last week, are again crowded out, but will appear next week without fail.

Removal.

The entire business office of the SCIENTIFIC PRESS, PACIFIC RURAL PRESS, and our U. S. and Foreign PATENT AGENCY and ENGRAVING establishment, has been removed to No. 338 Montgomery street, on the southeast corner of California street, diagonally opposite Wells, Fargo & Co.'s.

"WONDER," Gov. Stanford's horse, undergoes daily training at Sacramento.

THE MEZQUITE BEAN.

Two quite different trees are known by this name in those parts of the United States, south of lat. 35°, and west of the Mississippi river. We give illustrations to show the differences between them, by which it will be seen that the foliage is similar, and both are thorny, but that the pods are as different as any pods of the great *Leguminous* family of plants can well be. The trees themselves are similar in size, growing about 35 feet high, and spreading like apple trees so as to cover a width of about thirty feet or more, although this form is probably the result of the dry climate in which they vegetate.

Of the name "Mezquite" we can only ascertain so far that it means, in Spanish, a "Mosque," and may be applied to these trees as well as to a kind of grass, from the shape of their turban-like clumps.

These trees are distinguished by Americans as the flat or honey pod, and screw-pod Mezquite. Their marked botanical differences require that we give separately the history and description of each.

The Honey Mezquite—*Algarobia glandulosa*.

The tree was discovered by Dr. E. P. James, U. S. A., on Long's expedition to the Rocky mountains, in 1820, on the Canadian river, its northern limit, where it is only a shrub. Dr. Torrey described it in the annals of the New York Lyceum of Natural History, vol. II, p. 192, giving a plate illustrating its chief characters, by the name *Prosopis glandulosa*. But as the tree differs much from the East Indian *Prosopis spicigera* (of which the pods are eaten as a condiment,) the Spanish name "El Garobo" has been Latinized to apply to this and several more southern American species.

"El Garobo" itself is a second hand name, being the Spanish for "The Carob," a tree with pods used for food around the Mediterranean. In this we find also the origin of "locust tree." These pods were supposed by the early translators of the Bible to be the "locusts and wild honey" on which John the Baptist lived, they knowing nothing of the insect of that name, and therefore the Carob is called in Spain "St. John's Bread." Our eastern honey locust having sweet pods was supposed by immigrants to be a variety of the Saints' "Locust Tree." But as a botanical name for our trees, is sufficient, not being used for the Carob by botanists.

The specific name is derived from little glands at the base of the leaves. The figure shows the character of the leaves, flowers and pods. The latter are about 9 or 10 inches long, and contain about a dozen beans, surrounded by a sweet pulp as in the honey locust. Both beans and pulp are eaten by the Indians, and often by white men; but they are useful chiefly as food for horses, being produced in great abundance and requiring no preparation, as they eat pods and all.

The trunk has a diameter of 18 inches or more but branches usually within 10 feet from the ground. It is however, invaluable for posts and many other purposes. Dr. J. M. Bigelow in Vol. 4 Pacific R. R. reports says: "Fences made of this timber in southern Texas have been known to stand in a perfect state of preservation more than fifty years. From its hardness and durability, there can be no doubt but that it would make the equal of the lignumvitæ of tropical climates, to which it is, indeed, closely allied, belonging to the section mimosæ of seguminous plants." By sowing the seeds close together in rich sandy loam, there is no doubt that the trees might be made to grow much taller and straighter; thinning them out from time to time to make room, or using the saplings for poles etc. This tree also produces a valuable gum, resembling gum arabic, (the product of the related *Acacias* in Arabia,) and it is said that a large

amount of this gum is exported from Mexico.

As before mentioned, it is limited naturally by the parallel of 35° and though

one spot west of these mountains, at the borders of "Laguna Sal," between San Bernardino and San Diego, where it grows at least 15 feet high. It seems to grow in

THE HONEY MEZQUITE—*ALGAROBIA GLANDULOSA*.

widely diffused in Texas, is found west of the Rocky Mountains chiefly in the bottom-lands of the rivers, most abundantly in the Colorado valley. It follows the Mojave

Lower California, and is said to grow 40 or 50 feet high in Mexico.

Dr. Bigelow found it growing in Arizona east of the Colorado river, latitude 34°

THE SCREW-POD MEZQUITE—*STROMBOCARPA PUBESCENS*.

River valley west to the foot of the Sierra Nevada, becoming gradually smaller until it is a mere shrub two or three feet high, at about 2,000 feet. It is known only in

at an elevation of about 3,500 feet, and as the winter is quite severe there as well as in parts of Texas, we are obliged to look to some other influence than cold for its

absence from most of California. This cause is probably our long dry season; for in Arizona the summer is accompanied by heavy showers, so that in many portions it is moister than the winter. Along the Colorado, the river usually overflows its bottom-lands in May, thus ensuring a summer growth.

It is therefore probable that with moderate irrigation this valuable tree would grow in most of the warm valleys of California south of San Francisco, and perhaps much further north, where it might not need watering. Whether the alkaline soil of most of its native regions, (and Laguna Sal,) is essential to its growth, is uncertain. Where it would not make timber it would probably make an admirable hedge plant. The Screw-pod Mezquite—*Strombocarpa Pubescens*.

The remarkable form of the pods of this tree have given its English name, which is translated in the botanic name of the genus, and used also by the Mexicans in the Spanish form of "Tornillo." It does not seem to extend quite as far north, nor is it so large and valuable a tree. The pods, however, are good horse-feed, and are even eaten by the Colorado Indians, powdered to a coarse meal and made into a kind of bread.

The tree is very similar in form and foliage to the Honey Pod species, so much so that the able botanist Dr. Torrey finding the pods, together with the leaves of the latter, in Fremont's collection, described and figured them as a new species *Prosopis odorata*. (Fremont's Report for 1845, p. 313, pl. 1.)

Fremont mentions this tree as an *Acacia*, extending up the valley of the Rio Virgen, Arizona, to near latitude 37° and over 4,000 feet elevation. As he did not distinguish the *Algarobia* it is very probable that the most northern were that species.

Although the pods are so different, there are species of *Algarobia*, (or *Prosopis*,) which have the pods twisted in various degrees from the nearly flat to the strongly twisted form.

A New Grape Crusher.

Messrs. Schoenstein & Klein, two young mechanics of this city, have invented and procured Letters Patent through the Scientific Press Patent Agency for a grape crusher and stemmer, by which grapes taken in clusters from the vine can be crushed and the stems separated from the pulp during the operation. Our Washington agent reports the granting of this patent in the following humorous letter:

We take great pleasure, after our long wrestle with the Examiner to get it, in herewith forwarding the official announcement of the allowance of a patent to Messrs. Schoenstein & Klein for their grape crusher; and we hope it will be in time to use on the crop gathered the present autumn, so, that young California, "elevated" on the products of home vintage, may, in his "gaylarity," more than ever sing:—

"Twas not the 'Gallic Widow'
That turned my foolish brain,
Nor the wine of any vineyard
Found in Germany or Spain.

State Fair Gold Medals.

By an advertisement in another column it will be seen that all claimants to the State Agricultural Society's Gold Medals are required to furnish statements relative to the manufacture or production of the articles exhibited, and on which they claim the award of the medal, or upon which they base their claim of merit.

ELECTROTYPES BY MAIL.—On the authority of the attorney of the N. Y. City P. O., given personally to the N. Y. editor of the *Press*, we recently stated that wood cuts, etc., could be sent by mail at newspaper postage rates. Three weeks later, we found the attorney's decision reversed, without any explanation, and letter rates of postage are demanded.



ROBERT MAXWELL'S TEMPTATION.

Robert Maxwell let down the bars for the tired oxen to go through them, and seek on the cool hillsides, their night's pasturage. They turned their heads and looked at him with their great mournful eyes, as if expecting a word, for they were used to his voice, and liked it, as such dumb brutes always do the voice of a kind master. But to-night he had no voice for any of them. He put up the bars again when they had gone through, and leaned heavily against them. A May sunset was flushing earth and sky; a light, feathery leafage was on all trees, and a few of them had put on white blossoms. As he was gazing upon the scene he heard the sound of horses' feet, and in the distance. Maud Du Pays came sweeping down the hill, with a gay gallant beside her. How like apart of the sunset beauty she looked, with its rose upon her cheek, her plume streaming back on the wind her little hands, with the dainty gauntlets no them—so much youth, and grace and beauty. And the "city chap," as Robert Maxwell called him, by her side, did not mar the picture. As they swept by, a little cloud, which the hoofs of the horses beat up behind them, filled Robert's eyes and choked his throat and added to the bitterness of his mood. He glanced down to his hard, horny hands, his coarse, toil-stained clothes. How well he would look at Maud's side? And yet he had loved her in a vague sort of way ever since he could remember. And still she would be unfitted for a farmer's wife, and that was just what he was—a farmer. Then the question came up again could he be nothing else? Must he always go in and out these old ways, plow and plant, and make hay, and reap grain all summer, and go back and forth between the homestead and the wood lot all winter? Some one could be found to do as well for them, and he—no believed he had enough in him to go away and make a career which even Maud would not scorn to share. With these thoughts he went home slowly, with heavy footsteps.

"Tired, Robbie!" his mother asked, as he came into the kitchen.

Somehow the words vexed him; she had said them often enough before, but they had never struck him in just that way 'till now. Robbie! If she would only remember that he was over twenty-two years old.

"Yes, I'm tired," he answered doggedly.

"Well, draw right up to the table; I've got a nice cup of tea ready for you, that will rest and brighten you up a little."

"Mother," said he, with a bitterness he hated himself for years afterward, "I wonder if you ever had a trouble that a good cup of tea wouldn't cure? Things don't go any deeper than that with some folks."

His mother's eye clouded, but she answered him very gently. She felt that to-night, for some reason, he was not responsible for himself.

"I have had trouble that went deep enough, Robert; six children that have played round my knees, sleep yonder, behind the old meeting-house, and to bear and nurse, and then to lose—there's none knows what that is but just them that's borne it, and God that made mothers with mother's hearts. Yes, I've had troubles that creature comforts wouldn't help much and yet I don't despise this world's good things. I do think there's virtue in a good cup of tea."

Her patience and gentleness touched him. He drew up his chair to the table, where his father was sitting, and answered her in a softer tone.

"I 'spose you're right mother, but I'm not just myself to-night."

Then he ate his supper in silence, and after it was over, sat for a few moments thinking silently. At last he took courage and opened the subject of which his mind was full.

"Father, Henry Robbin is wanting a place. Don't you think, with you to oversee him, he could do the work on the farm this summer?"

Mrs. Maxwell did not speak, but the saucer she was wiping fell to the floor with a sharp crash. For a full minute it was the only sound which broke the stillness. At last the old man said:

"I don't know, Robert—may be he could; I never like to have any strangers working on the old place in my time. I did it all myself 'till you were old enough to help me, and everything has prospered under your hand, Robert. Still, maybe Henry Robbin could. Did you think of leaving, Robert?"

"I don't feel satisfied, father, to be a farmer in this small way. I want to do something more with my life. You could hire a man to do all I do for twenty dollars a month, and I want to see what I am worth somewhere else."

There was another long silence. The mother finished washing her dishes, and came and sat down between her son and husband; her face very white and her hands shaking a little. After awhile the old man reached out and took one of the trembling hands in his own.

"We musn't blame Robert, Mother," he said, trying to speak cheerfully. "What he feels isn't unnatural. Other young men say the same. Only it's come suddenly. Don't think we blame you, Robbie. It's all fair and right—only sudden."

His mother's silence and his father's attempts at cheerfulness seemed more than Robert could bear and he went away to his own room and sat down by the window. Over across the meadows a steady light was burning. He knew it was the lamp in Maud Du Pays' parlor. Was she worth all this that he was making these two old people suffer? Was he sure she would ever love him at all? And in this untried life, this great world where so many failed, how did he know that he should succeed? What was he going to do? How vague all of his purposes were—just a dream, born of a soft spring night, and Maud Du Pays' fair face. No, he would not be so mad. This summer, at least, should go on as before. He would take time to consider. By autumn he should know better what he could do, and whether he could bear to leave the old father and mother—so many of whose treasures the church-yard held, and whose all he was. And so sleep came to him, and morning brought him strength and calmness, and seemed to give him back his old self again.

"Will you see Henry Robbin to-day?" his father asked at breakfast, with an anxiety he strove to conceal.

"Not to-day; not at present. My plan was sudden, as you said—too sudden to be wise. I have given it up for a time, at least; I will carry on the place awhile longer."

The old man's face cleared, but he did not speak, only Robert Maxwell's mother got up and silently kissed him. No young lips could have been more fond—could any be more dear?

Two days after that, news came to him of Maud Du Pays' betrothal to her cousin. The news sank deep into his heart with a dull, dumb pain. She never would have cared for him then—never had. It was well he had not gone away and left those two who did love him to mourn. After all, perhaps the existence of plowing and planting, was all he was good for. Still he felt himself at odds with the life which did not offer him what he wanted. When autumn came, and it was time for him, it at all, to make the changes he had planned in the spring, he was surprised to feel that the inclination to make it was gone. Some healing ministry had been at work in his soul; and unconsciously to himself through the long summer days and swift short summer nights, he had been learning the sweetness of duty, pure and simple—duty done for its own sake; he had begun to ask himself, not what he wanted to do, but what he ought to do; and he felt that in the very fact of his being true to those two who loved him as their all on earth, God had called him to certain duties on which he would never again feel tempted to turn his back. He could think of Maud Du Pays in these days without pain. There would always be in his heart for her the tenderness a good man feels for a woman once beloved, but whether she was his or another's, he could reckon her loss or gain, among the "things he was contented to leave with Heaven." He had heard that she was to be married on Christmas, but he had never spoken with her more than a passing good-day, since her engagement.

One afternoon in November, he brought home his New York daily, and turning it over, his eyes were caught by the heading in large letters: *Another Great Forgery*. He began to read the article with the kind of careless half interest people in the country feel in the excitements of the city; but suddenly he started up, clutching the paper in his hand tight, and straining his eyes over it as if he doubted his own vision. The name of the crime-stained clerk, was Maud Du Pays' cousin and betrothed

lover. No mean selfishness stained his soul in that hour. He was honestly, and heartily touched at the thought of Maud's sorrow. If there were only something he could do to aid or comfort her. He took his hat and went out, with some vague purpose of offering his help. Of course there was nothing he could do—he could not even speak to her on the subject. Her grief would be sacred. Still he went on, in a purposeless sort of way, toward her house until he saw a slender figure coming as if to meet him. He had meant to pass with just a "good evening," but when she put out her hand to him, and he looked into her fair, still face, the words came before he knew it, to his lips:

"I have seen it all in the paper, Maud, and I am so sorry."

"Yes," she said, gently; "It will ruin him, I am afraid."

"And you? I thought most of you. You were to have been married so soon."

"Not to him," she said, hurriedly, "never to him. That was done away with two months ago. I had never loved him. It was vanity which made me consent to marry him. He was handsome and gallant, and he promised me all the good things of this life. But I found after awhile, that none of them would pay me for myself, and I told him the truth."

Something in her hurried, earnest tones, or the swift color that stained her cheek, or her shy, half-veiled eyes, or all together, gave Robert Maxwell courage, and he said, holding her hand still:

"It was because I had none of the good things of this life to promise you, Maud, that I dared not tell you how dearly I loved you and always should. You seemed too bright and fair to settle down here, just as the wife of a common farmer."

"But what if I liked that best?" said she softly, and her hand stayed in his.

And so Robert Maxwell won his heart's desire.

HAPPINESS IN THE HOME CIRCLE.—If a man is so situated that he cannot be happy in his family relations, he will not enjoy happiness at all. Man must cultivate, therefore, and look for this great end of his labors at home, in the bosom of his wife and in the affection of his children. Around his own hearth, in the presence of a loving family, the husband and father—himself the affectionate head of a household—cannot be otherwise than happy. He has no competition in business there; no opposing candidates for honors; no grasping and unscrupulous enemy, who may seek to take advantage of every weak point, to injure him and tear from him his earnings and possessions; but every one near him gives him preference—is awake to his interest in everything. They emulate each other in doing him heartfelt honor, and, without dissimulation or affectation, sympathize with him in all his sorrows, joys, hopes and triumphs. His loving intercourse at home is followed by no remorse, is attended by no disquieting reflections or regrets. He is there perfectly at ease, may be himself without reserve, and be sure that no unpleasant occurrence or consequence can result therefrom. It is his kingdom, and he is beloved by every subject. His wife is the honored queen of home; none dispute her benign sway; she rules by smiles, and the family lives in her love, and can be happy only when they possess it.

HAPPY HOMES.—The homes of people are the landmarks of civilization. They are a standard by which we may measure their moral and social greatness. What is a nation but a large family, possessing rights and duties, interests and privileges. The influence of each member of that family, for good or evil is reciprocal. As the shock of electricity vibrates and expands, so the influence of the human action is diffused from the center to the circumference of human society. Hence how cold that heart must be which does not beat more quickly at the mention of the word! What delightful associations and recollections are connected with that sacred spot.

READING TOO MUCH.—Girls read too much and think too little. I will answer for it; there are few educated girls of eighteen who have not read more books than I have; and as to religious books, I could count upon my fingers in two minutes all I have ever read—but they are mine. Multifarious reading weakens the mind more than doing nothing; for it becomes a necessity at last, like smoking, and is an excuse for the mind to lie dormant, while another's thought is poured in and runs through a clear stream over unproductive gravel, on which not even mosses will grow. It is the idlest of all idleness, and leaves more of impotency than any other.

YOUNG FOLKS' COLUMN.

A Merited Rebuke.

Passing along the street the other day we noticed two poor ragged little boys selling papers of pins, holding them out for the inspection of passing ladies. In front of a fine brown stone front, five-story dwelling house, one of the boys stopped a handsome lady with—

"Please buy some pins—only five cents."

Just then along came a richly dressed elderly lady, and said, in evident anger:

"Go long away, little brats, I won't have you in front of my house with peddling! Go 'way from here. This is no place for you. I won't have you in front of my house. Go home, you little nasty beggar!"

At this the handsome pleasant faced lady said:

"Look here, good madam! You live in this house, I judge—have here a beautiful home. Do you know whether that poor little boy has a home to go to?"

"No, and I do not care."

"If the house right here is yours, the street is his, and if he wants to sell pins I shall buy of him. It is very well to come and drive a poor little boy home, but if he had a home to go to—a home like yours—he would not have been on the street trying to earn his living."

Then the better woman of the two bought some pins and went her way. God bless her! And the older woman went in her house, in anger.—[N. Y. Democrat.]

Keep Your Promise.

When you promise to do a thing, be sure to keep your word, as well for the sake of truth as in justice to others. This story is told of a boy who was faithful to his word: He had borrowed a tool from a neighbor, promising to return it at night. Before evening he was sent away on an errand and did not return until late. Before he went he was told that his brother would see the tool returned. After he had come home and gone to bed, he inquired, and found the tool had not been sent to its owner. He was much distressed to think his promise had not been kept, but was persuaded to go to sleep and rise early and carry it home. By daylight he was up, and nowhere was the tool to be found. After a long and fruitless search he set off for his neighbor's doorstep. And it then appeared, from the prints of little bare feet on the mud, that the lad had got up in his sleep and carried the tool home, and went to bed again and knew it not. Of course a boy who was prompt in his sleep was prompt when awake. He lived respected, had the confidence of his neighbors, and was placed in many offices of trust and profit.

A LITTLE GIRL'S LOGIC.—A little girl six years old, was on a visit to her grandfather, who was a New York divine, celebrated for his logical powers. "Only think, Grandpa, what Uncle Robert says," "What does he say, my dear?" "Why he says the moon is made of green cheese. It isn't at all, is it?" "Well, child, suppose you find out for yourself." "How can I, grandpa?" "Get your Bible and see what it says." "Where shall I begin?" "Begin at the beginning." The child sat down to read the bible. Before she got more than half through the second chapter of Genesis and had read about the creation of the stars and animals, she came back to her grandfather, eyes all bright with the excitement of discovery. "I've found it grandpa! it isn't true; for God made the moon before he made any cows."

BOYS ON THE FARM.—Say what you will about the general uselessness of boys, it is my impression that a farm without a boy would very soon come to grief. What the boy does is the life of the farm. He is the factotum, always in demand, always expected to do the thousand indispensable things that nobody else will do. Upon him fall all the odds and ends, the most difficult things. After everybody else is through he has to finish up. His work is like a woman's—perpetually waiting on others. Everybody knows how much easier it is to eat a good dinner than to wash the dishes afterward. Consider what a boy on a farm is required to do; things that must be done, or life would actually stop.—*Work and Play.*

"Boys will be boys" is a common saying. It would be better to say, boys will be men. For, surely as they live, they will; and every wise boy will carefully consider what kind of a man he most wishes to be.

DOMESTIC ECONOMY.

Economy in Selecting Carpets.

In selecting carpets for rooms much used, it is poor economy to buy cheap ones. In-grain carpets, of close texture, and the three-ply carpets, are best for common use. Brussels carpets do not wear so long as the three-ply ones, because they cannot be turned. Wilton carpets wear badly, and Venetians are good only for halls and stairs.

In selecting colors, avoid those in which there are any black threads; as they are always rotten. The most tasteful carpets are those which are made of various shades of the same color, or of all shades of only two colors; such as brown and yellow, or blue and buff, or salmon and green, or of all shades of green, or of brown.

In laying down carpets, it is a bad practice to put straw under them, as this makes them wear out in spots. Straw matting laid under carpets makes them last much longer, as it is smooth and even, and the dust sifts through it. In buying carpets, always get a few yards over, to allow for waste in matching figures. In cutting carpets, make them three or four inches shorter than the room, to allow for stretching. Begin to cut in the middle of a figure, and it will usually match better. Many carpets match in two different ways, and care must be taken to get the right one. Sew a carpet on the wrong side, with a double wax thread, and with the ball-stitch. This is done by taking a stitch on the breadth next to you, pointing the needle toward you; and then taking a stitch on the other breadth, pointing the needle from you. Draw the thread tightly, but not so as to pucker. In fitting a breadth to the hearth, cut slits in the right place, and turn the piece under. Bind the whole of the carpet with carpet-binding, nail with tacks, having bits of leather under the heads. To stretch the carpet, use a carpet-fork, which is a long stick, ending with notched tin, like saw-teeth. This is put in the edge of the carpet, and pushed by one person, while the nail is driven by another.

Straw matting is best for chambers and summer parlors. The checked, of two colors, is not so good to wear. The best is the cheapest in the end. When washed, it should be done with salt water, wiping it dry; but frequent washing injures it. Bind matting with cotton binding. Sew breadths together like carpeting. In joining the ends of pieces, ravel out a part and tie the threads together, turning under a little of each piece, and then, laying the ends close, nail them down with nails having kid under their heads.—Miss Beecher.

TO PREVENT FLANNELS FROM SHRINKING.

In washing flannels, or other woollen articles, have the suds ready prepared, by boiling up and so dissolving small pieces of soap in rain-water, without soda; but do not use the suds when boiling; let them be lukewarm only when the articles are put in. The flannels should not be rubbed with a large piece of soap, nor should the material itself be rubbed as in washing linen, etc.; the fibres of the wool contain numberless little hooks, which the rubbing knots together; hence the thickening of the fabric, and consequent shrinking in dimensions. Well sluice the articles up and down in plenty of suds, which afterward squeeze (not wring) out. The clothes wringers, consisting of a pair of India rubber rollers, between which the clothes pass, are a great improvement upon hand labor—as, without injury to the fabric, they squeeze out the water so thoroughly that the article dries in considerably less time than it otherwise would do. After rinsing, squeeze out the water and dry in the open air, if the weather is such as to admit of the articles drying quickly; if not, dry in a warm room, but avoid too close proximity to a fire. Let any dust or mud be beaten out or brushed off prior to washing.

FRICASSEED CHICKEN.—Cut up the chicken, and boil with a slice or two of pork, in sufficient water to cover, till quite tender. Fry some pork, and when cooked a little, drain the chicken, and fry with the pork till quite brown. Then take out, and pour the broth into the frying-pan, with the pork fat, and make a gravy, thickened with brown flour; season well with butter, and put the chicken into the gravy. Be sure and have the fat quite hot when the chicken is put in, so it will brown readily.

Eggs vs. Meat.

Would it not be wise to substitute more eggs for meat in our daily diet? About one-third of the weight of an egg is solid nutriment. This is more than can be said of meat. There are no bones and tough pieces that have to be laid aside. A good egg is made up of ten parts shell, sixty parts white, and thirty parts yolk. The white of an egg contains eighty-six per cent. of water; the yolk fifty-two per cent. The average weight of an egg is about two ounces.

Practically an egg is animal food, and yet there is none of the disagreeable work of the butcher necessary to obtain it. The vegetarians of England use eggs freely, and many of these men are eighty and ninety years old, and have been remarkably free from illness. A good egg is alive. The shell is porous, and the oxygen of the air goes through the shell and keeps up a sort of respiration. An egg soon becomes stale in bad air, or in air charged with carbonic acid.

Fresh eggs are most transparent at the center, old ones on the top. Very old ones are not transparent in either place. In water, in which one-tenth of salt has been dissolved, good eggs sink, and indifferent ones swim. Bad eggs float in pure water. The best eggs are laid by young healthy hens. If they are properly fed, the eggs are better than if they are allowed to eat all sorts of food.

Eggs are best when cooked about four minutes. This takes away the animal taste that is offensive to some, but does not so harden the white or yolk as to make them hard to digest. An egg if cooked very hard is difficult of digestion, except by those with stout stomachs; such eggs should be eaten with bread and masticated very finely.

An excellent sandwich can be made with eggs and brown bread. An egg spread on toast is food fit for a king, if kings deserve any better food than anybody else, which is doubtful. Fried eggs are less wholesome than boiled ones. An egg dropped into hot water and left till properly cooked, is not only a clean and handsome but delicious morsel. Most people spoil the taste of their eggs by adding pepper and salt. A little sweet butter is the best dressing. Eggs contain much phosphorus, which is supposed to be useful to those who use their brains much.—*Herald of Health*.

MANUFACTURE OF SODIUM.—An English magazine proposes a highly original method for the manufacture of sodium, on a large scale, that deserves to be tested. The vapor of chloride of sodium produced by passing hot air through melted salt is conducted over quartz or feldspar heated to whiteness. Chlorine gas is evolved, which can be economized in the manufacture of bleaching powders while the silica takes the soda in the form of silicate. The silicate of soda is afterward decomposed by heating it with lime and charcoal, and passing carbonic gas over it, as a reducing agent, producing silicate of lime and vapor of sodium, which latter must be condensed in naphtha.

If silicate of soda can be economically prepared in this manner it is a question whether the process could not be employed as a step in the manufacture of soda ash in preference to the famous invention of La Blanc.

BAKED PEACHES.—Cut the peaches in two, remove the stone, having first wiped the fruit well. With a paste cutter (if you want something fanciful, otherwise simple squares will do,) cut some slices of bread. On each piece place half a peach, skin side down, dust well with sugar, put a tiny piece of butter on each, and bake slowly. When done, dish them and turn the juice over, if any. Otherwise add syrup of pears and serve warm. Apricots and plants may be served likewise.

KANGAROO SOUP.—Ever since the establishment of English colonies in Australia, the excellence of the flesh of the kangaroo has been universally recognized. The tail is very muscular and fleshy, and soup made from this part of the animal is regarded as particularly rich and nourishing. Kangaroo tails in a perfectly fresh state are sent to England in hermetically sealed tins, and are sold under the name of kangaroo venison.

MEDICINE STAINS.—Medicine stains may be removed from silver spoons by rubbing them with a rag dipped in sulphuric acid, and washing it off with soap suds. It is much easier to remove the medicine stains from silver spoons, than from the body. The latter are rarely ever wiped out.

Domestic Receipts.

BREAKFAST PUFFS.—One pint of milk, two eggs, a little salt, piece of butter the size of a walnut, and one pint and a half of wheat flour. Beat the eggs, and stir into the milk; add the salt, melt the butter, and stir in; then pour all into the flour, carefully, to avoid lumps; stir in well, and bake for half an hour, in cups well greased, and filled two-thirds full with the batter. Eat with a sauce—lemon-juice and sugar, with a little water, boiled long enough to make a syrup, is a very good sauce for these puffs.

POTATO PUFFS.—Boil and mash the potatoes, mix them with sugar, flour, nutmeg, butter, and beaten eggs. Make them into cakes, fry a nice brown, and serve them with white sauce.

LEMON OR ORANGE HONEYCOMB.—Sweeten the juice of two oranges or lemons. Beat the white of two eggs into a quart of rich cream and whisk it; as the froth rises, skim off and lay on the lemon or orange juice. Whisk until you have the whole frothed and laid on the juice. It makes a pretty and agreeable dish. It should be prepared the day before needed and set in a cool place.

MINT SAUCE.—Take a bunch of green mint, and chop it fine with a knife, or rub it in a mortar; add half a pint of fine vinegar. Stir or rub well, and serve cold, to be eaten with roast lamb.

TO BLEACH WHITE SILKS OR FLANNEL.—Wash the articles clean, rinse in suds, and smoke with brimstone while wet; the silk must be brushed or washed with a sponge; if rubbed it will never press smoothly; expose the goods to the air, and the odor will soon pass off.

TO CLEAN FEATHERS.—Dissolve four ounces of white soap, cut small, in four pounds of water, moderately hot, in a basin, and make the solution into a lather by beating with a small rod. Then introduce the feathers, and rub them well with the hands for five minutes. They are next to be washed in clean water as hot as the hand can bear it.

FRIED BREAD.—Put into a common biscuit pan a heaping teaspoonful of butter, and let it melt and spread over the pan; then take enough slices of bread (stale answers as well as any) to cover the bottom of the pan, and make a mixture to dip them in by beating well with two eggs, and pouring in milk enough to soak the bread; season it with a little pepper and salt; make the bread quite moist; then lay it on the butter and fry brown one side, and if too soft to turn, put it into the oven to brown on the top, and you will have a dish that serves for meat and potatoes, consisting of neither.

Mechanical Hints.

BLACK LUSTER COLOR.—Dr. Kiemeyer gives a recipe which is adapted for either paper, cloth or porous wood. He states that it stands well, is very supple, and has no tendency to get sticky. To prepare it he boils together 8 pounds of glue, previously dissolved in 16 pounds of water; 5¼ pounds of campeachy, extract 6° Baumé; 1 pound 2 ounces of green vitriol, and 8¼ pounds of brown glycerine. When thoroughly mixed, he removes the pot from the fire, and continues to stir until the liquid is cold. If the paint be desired thicker or thinner, the amount of starch and glue must be varied as well as the other materials, or the lustre will suffer.

TO COLOR MARBLE YELLOW.—R. Weber states, in Dinger's *Polytechnic Journal*, that alcoholic solutions of perchloride of iron are not precipitated by carbonate of lime, and may therefore be applied to white marble for the purpose of imparting to it a yellow color. The depth of the color will depend on the degree of concentration given to the solution.

SHELLAC may be bleached by dissolving in alcohol of about 0.83 sp. gr. mixing with animal charcoal coarsely powdered, and exposing it for some days in the sun, and filtering. Shellac bleached in this way will not stain any metal with which it may come in contact, as it is apt to do when bleached in the usual way by chlorine, or some of its compounds.

DISTEMPER.—Prepare the wall with clear-cole, then make some whitewash in the ordinary way with whiting, size and blue black. For French gray, use blue verditer, and tone to taste with blue black. For salmon color, use rose pink and Venetian red. For stone color, darken the whitewash with blue black.

FURNITURE OIL.—Take linseed oil, put it into a glazed pipkin with as much alkanet root as it will cover. Let it boil gently, and it will become of a strong red color; when cool it will be fit for use.

LIFE THOUGHTS.

SORROW's best antidote is employment. SPARE moments are the gold dust of time. ALWAYS tell the truth, you will find it better than lying.

QUARRELS would never last long if the fault were on one side only.

LIFE is a great poem; religion, love, and music are its sweetest stanzas.

POLITICS is a lottery in which small men sometimes draw large prizes.

BE in peace with many; but nevertheless have but one counsellor of a thousand.

WHERE gold and silver dwell in the heart, faith, hope, and love are out of doors.

A man without desire and want, is without want, is without invention and without reason.

THERE is no man without desire and without prosperity to whom adversity never happened.

INDUSTRY will make a purse and frugality will give strings to it. This purse will cost you nothing. Draw the strings as frugality direct, and you will always find a useful penny at the bottom.

HAPPINESS.—Madame de Stael defined happiness to be a state of constant occupation upon some desirable object, with a continual sense of progress towards its attainment.

LIFE to the young is a dream-book, with the leaves uncut and pages yet damp from the press. Before they are all perused, ah! how dry, dark—how dog-leaved will many of them be! Youth may have stolen a glance at its fascinating engravings, but it knows not yet the number of its pages, the brightness or darkness of its contents, or the sober sadness of its details.

Life Thoughts for Farmers.

Great farms—great care. Great income—great outgo. Spend less, and you will need not earn so much. Never neglect the laws of health. If you wish to live long and be happy "learn to know thyself." A short and easy law of life is to keep the head cool, the body warm, and feet dry. Soft water and castile soap are worth more to keep the farmer in health than all the *materia medica*. Bathe the feet every other night, and the whole body at least once a week. No man who practices eating and drinking without regard to health, can ever expect it. Be regular at your meals, if possible. Eating in a hurry will hurry you through life. Late suppers, make early graves. Tea and coffee in childhood—tobacco in youth, whisky in manhood—nothing in old age. There is no old age for those that abuse God's best laws. It is the worry more than the work that kills. Fits of anger bring fits of disease; so with all irregularities. Mirth is a medicine, it is not taken half often enough. God made man a laughing animal. Mirth drives nails out of the coffin. Anger and reproach should never go in the same boat; one upsets the other.

Farmer's food should be more substantial, hearty and plain. It should be taken with a view to the labor to be undertaken, to the rest required, and to the needs of the body. Farmers should use more fresh meats. Salt-fish is a good change from salt meats. Eat more fruit and vegetables and less salt pork; more plain, light bread, and less pies and cakes. In short, to be healthy we must eat more simple food; for "they that dainties love, will beggars prove," as poor Richard says."

When you wake up don't roll over but roll out. Get the hands to bed as soon as possible and they will rise early by force of circumstances. One hour in the morning is worth two at night. Study your interest closely and don't spend too much time in electing office seekers. Take time to make your calculations; be sure you are right, then go ahead. Don't do your work in a hurry, but do it at the right time and with body and mind employed. Paint and preserve should be the farmer's motto. A good coating for rough work is made of fish-oil and waterlime. Gates are more economical than bars. Attend all farmers' meetings, and take your family with you. You will not lose by it. Try to learn your boys to be good farmers, and then, if they don't wish to follow it when grown, they have a good trade to fall back on. Teach your children that wisdom maketh man humble, but ignorance and pride the reverse. Teach them to love and fear the God of all nations, and you need not fear of their coming to the bad. SOLON ROBINSON.

THE UPPER SACRAMENTO VALLEY FAIR.

[Concluded from last week.]

J. E. Parker, of Sacramento, had a number of sets of single and double harness on exhibition which we were told had taken the first premium at the State Fair. The agricultural implements were confined mostly to plows, all of which were put to a severe test on Friday—that day having been fixed upon for

A Grand Plowing Match,

which took place under the direction of a competent committee, consisting of Messrs. Cochrane, Montgomery, and Merrill. The field in which the trial came off contained about ten acres, a part of which, next to Butte Creek, was a sandy loam, and the balance a moderately stiff adobe clay. General Bidwell, who owned the land, and who took a lively interest in the trial, had, with a great deal of trouble, irrigated about one-third of the field next to the creek so that the plows might have the advantage of a trial in soil in different conditions, as well as of different qualities.

The first plow brought out was a large single plow on wheels, by Hill & Knaugh, of Marysville, called a deep tiller. It was drawn by six heavy mules, the team used on all the plows. It worked admirably, turning a furrow a foot wide and fifteen inches deep, alike in the irrigated loam and the dry stiff clay. As a deep tiller it was voted by all a decided success.

The team was next hitched to a two-gang sulky plow, made and entered by W. B. Ready, of Sacramento. This plow is a great favorite with many farmers, on account of its light draft, and it acquitted itself well in the loam soil and especially where it had been irrigated. Mr. Ready received a number of orders from farmers who saw its performance.

Then came a two gang sulky plow, made by Matteson & Williamson, of Stockton. This plow did splendid work in all varieties and conditions of soil. It turned the furrow better than any other plow on the ground and showed no disposition to jump out even in the worst packed places.

After this, was tried a single plow called the "Farmer's Pride," by Matteson & Williamson, but the soil seemed too hard for it, and it was difficult for a man to keep it in the ground. It afforded a good illustration of the perfection to which machinery for holding plows has been brought within a few years and the superiority of that machinery over human power for this purpose.

The team was then hitched to a two gang sulky plow, of Hill & Knaugh, of Marysville. A coat of varnish having been applied to the mould boards of these plows they at first refused to clean themselves, but this having been worn off they did good work and performed to the satisfaction of all present. Like their deep tillers, they seemed to hug the ground with a will—the hardest surface seeming to present no perceptible obstruction to their entrance.

A two gang sulky plow built by Hull & Sherwood, of Chico, was next tried. It being new, its owners had some difficulty in adjusting the plows to each other, and in gauging it for the soil. This being done it worked very well and gave evidence of merit.

The last two gang plow tried was by Meyers & Gammow, of Marysville. This is a plow of very simple construction and it did good work; but the owners were more anxious to show this as a sub-soil, than an ordinary gang plow, and in this they were very successful. By an ingenious and simple contrivance, the whole right hand plow of the gang is detached and a sub-soil is substituted in its stead. The sub-soil then follows the off horse, penetrating and completely loosening the

soil in the bottom of the previously made furrows, to any depth required, while the left hand plow performs its duty and turns the furrow with a steadiness and perfection that surprised and pleased all that beheld it.

This improvement is a decided advance in plow making for deep tilling, and if we mistake not, is destined to work a great revolution in the cultivation of the soil. Many a farmer on the ground was heard to say, "That's just the thing we want in this county, when it is desirable to stir the soil deep and yet leave the rich surface soil on the top." Thus ended the plowing match, and with it, ended one of the most useful and interesting exercises of the Fair.

The Decision.

It was pretty evident that the real contest for the premium offered by the society for the best two gang plow, lay between Hill & Knaugh and Matteson & Williamson. This was the opinion of the farmers present who seemed to be about equally divided. The committee were all practical farmers, and we are assured that it was very difficult for them to decide between these two plows.

While it was admitted that Matteson & Williamson's plow turned the furrow best and did its work equally well with that of Hill & Knaugh's, the committee finally came to the conclusion that the latter was a little stronger and more simple in its construction and gave it the preference on this point alone. So evenly balanced were the minds of the committee as to the merits of the several plows tried that they wanted to see another trial, and to this end induced the Society to give a regular plowing tournament to come off as soon after the first rains as the soil shall be in good condition. The prize to be won at this tournament is the Society's gold medal. General Bidwell offered the Society the land for the tournament, and teams with which to work the plows.

This will undoubtedly be an important meeting, and we shall have a reporter on the grounds.

The Important Question

now to be decided, in reference to plows, is,—other things being equal—simplicity and cheapness of construction. The great problem of the age, pertaining to agriculture, is, how to do the greatest amount of labor and produce the greatest yield from the soil with the least expense. In solving this problem the plow must play an important part. Hence the increasing interest in plowing matches.

The Stock Exhibition

was very good. In addition to the excellent herds of short horns of Sweezy of Marysville, and Wick of Butte, which were shown at the State Fair, General Bidwell showed a very good herd of graded Durhams. P. Saxe was also there with his imported cattle, sheep and swine. The exhibition of good horses was also excellent and the races were an interesting feature of the Fair.

Acknowledgements.

To the kind hospitality of General Bidwell and family we are indebted for a real home with every possible home comfort and attention during our stay in Chico, and to the officers of the Society we are under many obligations for kindness and favors bestowed. We shall long remember our first visit to Chico, and shall ever have a kind word for her generous and kind-hearted people. The Upper Sacramento Valley Agricultural Society embraces one of the richest and most productive portions of our State, which may well be called the garden spot of California.

HEAVY FLEECES.—A San Joaquin farmer lately brought into Stockton 95 pounds of clean wool, the product of fourteen sheep, fall clip—a little over 6¼ pounds to each fleece.

STATE FAIR PREMIUMS.

We have received from Mr. Hoag, of the State Agricultural Society, the following additions to the premiums as announced at the close of the Fair, and already published by us. This supplemental publication also includes sundry corrections of the list as first published. In publishing the supplemental premiums we are requested to state that many parties who had goods on exhibition, supposing that an application for space in the building was all that was necessary to secure a proper entry and examination of their goods by the committees, failed to have a specific entry made in the entry clerk's book. In all such cases there could not, of course, have been any entry in the lists as supplied to the various committees, neither could there have been any examination of such articles or awards made for the same. Moreover, the time for the committees to act and report upon such a large number of exhibits was so short that many errors crept into the reports, as first announced. As far as possible such errors have been corrected below.

Many special premiums were also awarded by the different committees for worthy articles not named in the Society's catalogue, and for which no specific premium was offered. The Board have carefully examined into all these cases and fixed these premiums, so that they now class as regular first-class premiums given by the Society.

The Society is very anxious to do justice to all, but exhibitors must take their chances on the comparative merits of articles exhibited, and if they fail once, try and do better next time. In this friendly emulation it is to be found the great benefits resulting from all industrial and competitive fairs.

S. B. Whipple, San Mateo—Stallion Speculation; silver goblet, value \$30.
Walter Smith, Oakland—Roadster stallion Terminus; silver cup, value \$15.
Edw. Barnes, San Francisco—Roadster gelding Ben Hancock; silver cup, value \$15.
S. B. Whipple, San Mateo—Roadster stallion California Dexter; silver cup, value \$15.
Rufus Denmark, Centerville—Roadster stallion Young Rattler; silver cup, value \$15.
E. M. Skaggs, Sacramento—Roadster stallion Rattler; silver cup, value \$15.
Peter Donahue, San Francisco—Roadster gelding Pat Malloy; silver cup, value \$15.
Clark & Cox, Sacramento—Graded heifer calf Laura; silver cup, value \$15.
Harris—fat steer and cow; silver goblet; value \$20.
H. A. Rawson, Tehama—Two-year-old Southdown ram, \$30; one-year-old Southdown ram, \$20; pen of 5 Southdown rams, silver goblet, value \$20.
Peter Saxe, Sacramento—Berkshire pigs, imported; silver goblet; value \$20.
Babcock Northwestern Fire Extinguishing Company, S. C. McDowell agent, San Francisco—Fire engine and extinguishers; framed diploma.
Pacific Pneumatic Gas Company, F. P. Howard agent, San Francisco—Pneumatic gas machine; diploma.
C. B. Brown, Placerville—Self generating gas burner; diploma.
Dr. J. L. Bartlett, Stockton—Portable gas machine; diploma.
L. Merrill, Sacramento—Bright Union safety lamp; silver medal.
Nicholas Lumsden, Sacramento—Machine for the manufacture of screwed boots and shoes diploma.
Dr. J. M. Frey, Sacramento—Model of Frey's improvement on Evans' undercurrent sluices for saving gold and quicksilver for quartz mills and surface mines; diploma.
Atwood & Bodwell, M. S. Bowdish agent, San Francisco—Little Giant sweep horse-powre; diploma.
Williams & Humphrey, Stockton—Grain draper and header-apron; diploma.
Thos. Wheaton, San Francisco—Buckeye hay and straw cutter; diploma.
Hawley & Co., M. S. Bowdish agent, San Francisco—Clipper mower; diploma.
Matteson & Williamson, Stockton—Horse hay and grain fork; \$5.
J. S. Harbison, Sacramento—Bee hive, Harbison's patent; diploma.
J. G. Anderson, Gilroy—Curd cutter; diploma.
J. G. Anderson, Gilroy—Curd agitator; diploma.
J. G. Anderson, Gilroy—Lactometer; diploma.
A. S. Hallidie, San Francisco—Endless wire ropeway; silver medal.
A. S. Hallidie, San Francisco—Patent grip pulley; framed diploma.
D. N. Phelps, San Leandro—Air pump for preserving fruit; diploma.
Thomas Orchard, Sacramento—Well auger; silver medal.
Thomas Orchard, Sacramento—Post auger; diploma.
G. A. Lloyd, San Francisco—Gopher trap; diploma.
Williams & Humphrey, Stockton—Barley

M. Barthel, Pacheco—Best farm gate; \$15.
M. L. Reynolds, Sacramento—Imperial wash boiler and machine combined; diploma and \$5.
H. H. Hewlett, Stockton—Williamson's road steamer (Thompson's patent); \$50 and diploma.
Laufkotter Bros., Sacramento—Stock's patent pump valves; diploma.
Ross & Smith, Reno—Two sulkies (Ross, patent wheel); diploma.
Waterhouse & Lester, Sacramento—Assortment wagon and carriage material and trimmings; diploma.
Wm. M. Betts & Bro., San Francisco—Side carriage; milk-wagon, Clarence buggy, sulky and express-wagon springs; framed diploma.
Daniel Mason, Sacramento—Single-seat open buggy; diploma.
Weister & Faighu, Sacramento—Top-buggy; diploma.
Henry Bernard, Sacramento—Five top-buggies (two with patent wheels), one trotting sulky, weight 64¼ pounds; silver medal.
Craig & Son, San Francisco—One hearse; diploma.
E. Soule, Sacramento—One light running wagon, gear with anti-friction bearing. Locust hubs. Set wheels with locust hubs and bent rims, locust felloes and spokes. All California growth and California manufacture; diploma. Assortment of thimble skins of Soule's patent \$15.
W. B. Ready, Sacramento—Trotting buggy; diploma. Farm wagon \$15.
E. Soule, Sacramento—Farm wagon; \$15 and silver medal.
Kimball Manufacturing Company, San Francisco—Two 2-seated open carriages and five open buggies; silver medal. Plated and other carriage and buggy trimmings; diploma.
Wm. McKibben, San Francisco—Two patent iron wheelbarrows; diploma.
California Silk Manufacturing Company—San Francisco—For a valuable exhibition of raw and sewing silks; silver medal and diploma.
Tobin, Davisson & Co., San Francisco—American manufactured silk goods—manufactured by Cheeney Bros.; silver medal and diploma.
Oakland Mills, Oakland—Exhibition of jute goods; silver medal.
M. Kraker, Sacramento—Fine display of gentlemen's and ladies' underclothes and furnishing goods; silver medal.
Madame Anna Gettz, San Francisco—Wax flowers and group of flowers in wax, and wax fruit and wreath; silver medal.
Mrs. A. O. Cook, San Francisco—Wax flowers, wax shells, and statuary in wax; silver medal.
Mrs. C. Cook, San Francisco—Hair jewelry and device in hair; silver cup, value \$15.
Mrs. Carrie E. Jones, Sacramento—Sea moss; napkin ring.
Mrs. E. M. Skaggs, Sacramento—Hair wreath; silver medal.
Mrs. S. Sims, Sacramento—Hair wreath; napkin ring.
Mrs. C. Cook, San Francisco—Embroidered rug; napkin ring.
Miss J. M. Pierce, Sacramento—Crochet work; napkin ring.
Mrs. M. Lamkin, Sacramento—Skelton leaves; diploma.
M. Freud, San Francisco—Shoulder braces, corset and hoops; diploma.
Mrs. R. Jones, Sacramento—Model for dress fitting; diploma.
Mrs. Ashbury & Crace, Sacramento—Patent magic hair curlers; diploma.
Mrs. H. T. Lowery, Sacramento—Walking dress; diploma.
Miss Sallie Coons, Ely Grove—Wreath of feather flowers; napkin ring.
Chauby, Masauki & Co., San Francisco—Exhibition of Japanese goods; silver goblet, value \$25.
D. D. J. Magowan, Shanghai—Exhibition of Chinese goods; silver goblet, value \$25.
F. X. Kast, San Francisco—Display of ladies' shoes; diploma.
Liddle & Kaeding, San Francisco—California made rifles, shotguns and other sporting goods; silver medals.
Mooney & Lord, San Francisco—Improved gopher and squirrel trap; diploma.
J. H. Mooney, San Francisco—Improved tuck mark for sewing machines; diploma.
John Ashton, Marin county—Dutton's improved harness; diploma.
Henry Campbell, San Francisco—Patent treadle for sewing machines, lamp bracket for same; diploma.
James Hartley, Sacramento—Fleece of fine wool; honorable mention.
George E. Phelan, San Francisco—California made billiard table; diploma.
Jacob Strahl & Co., San Francisco—California made billiard table; silver medal. Set of bedroom furniture, California laurel and bird's-eye redwood; \$20. Mosaic inlaid floor and samples California wood veneers, finished and unfinished; diploma.
Cooley & Green, Sacramento—Crandall's patent spring bed; diploma.
A. S. Hallidie, San Francisco—Wood carpet; diploma.
W. P. Langland, Sacramento—Black walnut, and laurel newels, rails and bannisters—samples of stairway of State Capitol; honorable mention.
W. J. T. Palmer & Co., San Francisco—Principal school-teacher's desk; diploma.
Adams, McNeill & Co., Sacramento, agents—Powder for various purposes; diploma.
Mission Caudle Works, San Francisco—Solar sperm, hotel coach and colored candles, and assortment chemical wax; silver medal and diploma.

Pacific Wood-Preserving Company, San Francisco—Display of preserved woods, for various purposes; silver medal.

Henry G. Hanks, San Francisco—Valuable collection of minerals; silver medal. Valuable collection of fossils; diploma.

G. A. Lloyd, San Francisco—Double-action spring door-hinge; diploma.

A. L. Fish, San Francisco—Knowles' patent steam pump; silver medal.

P. Craig & Son, San Francisco—Patent metallic burial case; silver medal.

John F. Cooper, Sacramento—Mathushek Colibri piano; silver medal.

William G. Badger, San Francisco—Hallet & Davis' pianos; special mention.

R. C. Marsh, Sacramento—Hews' piano; special mention.

John F. Cooper, Sacramento—Meritorious display of musical instruments; diploma.

James Asbury, Woodland—Best cured bacon and hams; silver medal.

Johnson County Agricultural Society, Iowa—Exhibit grain and garden seeds; diploma.

Thomas O'Brien, Sacramento—Choice collection of flowering plants; \$20.

Dr. J. M. Frey, Sacramento—Display of rare and beautiful flowering plants; silver medal.

Judge E. B. Crocker, Sacramento—Display of rare and choice plants and flowers; silver medal.

Swan Brewery, San Francisco—Best porter, ale and Brown Stout; diploma.

R. B. Blowers, Woodland—Sample grapes; diploma.

W. S. Runyon, Sacramento—Choice table grapes; diploma.

J. Rutter, Sacramento—Very choice samples of a large variety of grapes; silver medal. [This entry, by mistake, was not on the committee's books, and did not, therefore, claim the attention of the Committee on Fruit.]

E. G. Carpenter, Diamond Springs—General display of fruit; silver medal.

Mrs. E. F. Aiken, Sacramento—General display of dried fruit; diploma.

E. M. Smith, Coloma—Best lemon juice; special mention.

Mrs. I. Lohman, Sacramento—Best apple quince; special mention.

Geo. Hoyt, Sacramento—Best ripe undried figs; special mention.

I. W. Taber, San Francisco—Display of plain photographs; silver medal.

Arnold Bradford, Sacramento—Crayon drawings by a boy; diploma.

Mrs. A. E. Wood, San Francisco—Best ivory-type; silver medal.

John Allen, San Francisco—Stone seal engravings.

W. C. Butler, San Francisco—Display of wood engravings; diploma.

F. Marriott, San Francisco—California Mail Bag; diploma.

John Nehrbass, Sacramento—Statuette and mining scene in confectionary; diploma.

Henry Fisher, Sacramento—Cases fine confectionary; diploma.

Robert Cowne, Sacramento—Samples ramie plant and fiber in different stages; —.

Buckley & Strong, Merced—Samples California raised cotton, being sample of large quantity produced this season; honorable mention.

F. Foster, Sacramento—Book binding; diploma.

H. Wachhorst, Sacramento—Splendid display of jeweler's goods; silver medal.

T. S. Chamberlain, Lincoln—Best Australian wheat; \$10.

John Smith, Sacramento—Best sugar beets; \$3.

John Smith, Sacramento—Best assortment tomatoes; \$5.

Mrs. J. H. Roberts, Sacramento—Tattooing and tatting collar; special mention.

Mrs. Barney Clark, Sacramento—Hair wreath and seed wreath; napkin ring.

Mrs. T. E. Coleman, Knight's Landing—Worsted wreath; napkin ring.

Premium for New Subscriptions.

There are many persons not familiar with the value of the Press who would ever after be thankful to our present subscribers for bringing their names on to our list of intelligent readers. Large additions can be made with little effort by the many in this way. We therefore offer (post paid) a premium of one of the patent newspaper file holders (advertised in this paper) for every two new subscriptions received with \$8 advanced payment.

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

Send us Communications.—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

Improve your Wheat by purchasing Improved Seed of McNear & Bro., who advertise in the RURAL PRESS. 15v23mr

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, THURS., A. M., Oct. 12th.

FLOUR—The market still continues quiet with very little demand for export. Sales reported embrace 2,500 bbls. Cal. extra, 2,000 Oregon extra and 1,000 Cal. superfine, at current rates. We quote prices without change, as follows:

Superfine, \$7.00@7.25 extra, in sacks, \$7.75@8.00. Standard Oregon brands, extra, may be quoted \$7.75@8.00.

WHEAT—The market has been exceedingly quiet since our last review with no demand for export. Sales embrace only 12,000 sacks fair to choice at \$2.55@2.72½; 800 sacks were sold on Wednesday, in two lots, at \$2.57½@2.60. The market for fair may be quoted at \$2.60; for choice \$2.65 @ 100 lbs. The latest Liverpool market quotation is of the 6th inst. when the price was 13s—the same figure as given in our last summary.

BARLEY—Has been in limited demand at declining rates during the past week. Sales include 10,000 sacks ordinary coast to choice bay, at \$1.90@2.12½. At the close we quote at \$1.90@2.05.

OATS—Market has been inactive and prices show a decline. Sales have been 5,000 sacks ordinary coast to choice bay, at \$1.90@2.05. Quotable at \$1.90@2.05 @ 100 lbs.

CORN—In limited demand during the week. We quote at \$2.15@2.30.

CORNMEAL—Is quotable at \$2.75@3.25, according to quality.

BUCKWHEAT—Last sales quotable at \$3.00.

RYE—According to quality is quotable at \$2.37½@2.90.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Demand fair at \$30 per ton from the mill.

MIDDINGS—For feed are now selling at \$42.50 per ton from mills.

OIL CAKE MEAL—Is quotable at \$40 from the mill.

HAY—The market has ruled steady during the past seven days, and prices are firm at \$18@23 for fair to choice @ ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—Have been in good demand at firm prices at 75@85c for Mission and 95c@1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.62½@1.75.

HOPS—We quote new at 50c.

HIDES—Market steady with following sales during past week 1,560 Cal. dry at 17@18c, and 1,402 salted at 9@9½.

WOOL—The receipts are quite free with only a moderate demand and that for choice grades to fill orders. Fall clip good to choice at 26@28c @ lb. Burry and dirty are neglected. Sales have aggregated about 355,000 lbs.

TALLOW—Market firm at 9½@10c @ lb.

SEEDS—Flax 3c; Canary, 7@8c; Alfalfa, 16c, new and clean, 19c. Mustard—California Brown, 3@6c; Cal. white 4@5c. @ lb.

PROVISIONS—California Bacon 14@15c; Oregon, 15½@16c; Chicago 19@21c; Cal. Hams 14½@15; California Sugar-cured Hams, 17@18c; Oregon do, 16@18c; Eastern do, 19@21c; California Smoked Beef, 14c.

BEANS—The following are jobbing rates: small White \$2.25; small Butter \$2.00@2.25; large do, \$2.50@2.75; Pink \$2@2.12½; Bayo, \$3.12½ @ 100 lbs.

ONIONS—Choice silver skins selling at 95@1.00 @ lb.

NUTS—California Almonds, 10@12½c for hard and 15@20c for soft shell; Peanuts, 7c; Pecan, 24c @ lb.; walnuts, 12c; Hickory, 12c; Brazil, 16c.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c @ lb. Do 2d quality 7@8c @ lb. Do 3d do 5@6c @ lb.

VEAL—Extremes, 7@9c.

MUTTON—5@6c @ lb.

LAMB—Plentiful at 7c @ lb.

PORK—Undressed is quotable at 5@5½c, dressed, 7½@8½c.

POULTRY—Live Turkeys, 18@20c @ lb; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$4.00@4.50. Ducks, tame, \$7.00@7.50 per doz. wild \$1.50@3.50; Geese, \$12@15 @ dozen.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 32½@45c; California firkin butter, 27½@32½c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10@14½c, Eastern, 11½@14½c.

EGGS—California fresh, 50@52½c. @ doz.

LARD—California Lard, 11-lb tins, 13@14c; Oregon in bbls. 14½c; Eastern do. 13½ @ 14c.

FRUIT.

| | | |
|-------------------------------|---------|---------|
| Tahitian Oranges..... | \$30 00 | @ 35 00 |
| Limes, @ 1,000..... | 10 00 | @ 15 00 |
| Australian Lemons, @ 100..... | 5 00 | @ 10 00 |
| Sicily do, @ 100..... | 10 00 | @ 14 00 |
| Bananas, @ bunch..... | 1 50 | @ 3 00 |
| Cocoanuts, @ 100..... | 8 00 | @ 10 50 |
| Apples, cooking..... | 40 | @ 1 50 |
| Pears, cooking..... | 40 | @ 60 |
| Bartlett do..... | 1 50 | @ 2 00 |
| Sekel do, @ box..... | 1 00 | @ 2 00 |
| Peaches, @ basket..... | 75 | @ 1 00 |
| Choice Mountain do, @ lb..... | 5 | @ 10 |
| Quinces, @ box..... | 75 | @ 1 00 |

| | | |
|------------------------------------|----|-------|
| Strawberries, @ lb..... | 9 | @ 12½ |
| Plums, @ lb..... | 3 | @ 4 |
| Prunes, @ lb..... | 5 | @ 6 |
| Figs, @ lb..... | 4 | @ 6 |
| Grapes, Sweetwater, @ lb..... | 2 | @ 3 |
| Mission do, @ lb..... | 1½ | @ 2 |
| Rose of Peru do, @ lb..... | 2½ | @ 4 |
| Black Hamburg, do, @ lb..... | 2½ | @ 4 |
| Muscad of Alexandria do, @ lb..... | 4 | @ 7 |
| Flame Tokay do, @ lb..... | 4 | @ 8 |
| Isabella do, @ lb..... | — | @ — |

DRIED FRUIT.

| | | |
|----------------------|----|------|
| Apples, @ lb..... | 6 | @ 8 |
| Pears, @ lb..... | 8 | @ 10 |
| Peaches, @ lb..... | 9 | @ 9½ |
| Apricots, @ lb..... | 10 | @ 11 |
| Plums, @ lb..... | 6 | @ 8 |
| Pitted do, @ lb..... | 18 | @ 22 |

VEGETABLES.

| | | |
|--------------------------------|------|--------|
| Cabbage, @ lb..... | ¾ | @ 1½ |
| Garlic, @ lb..... | 1½ | @ — |
| String Beans, @ lb..... | — | @ — |
| Summer Squash, @ 100..... | 1 00 | @ — |
| Tomatoes, River, @ box..... | 30 | @ — |
| Bay do, @ box..... | 75 | @ 1 00 |
| Cucumbers, @ box..... | 1 00 | @ — |
| Green Corn, @ doz..... | 12 | @ 20 |
| Watermelons, each..... | 3 | @ 6 |
| Cantaloupes, @ doz..... | 50 | @ 2 00 |
| Lima Beans, @ lb..... | 2½ | @ 3 |
| Marrowfat Squash, per ton..... | 5 00 | @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—We note a fair demand at unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—Good demand for export—local trade has also been active. Cargoes of Oregon sell as follows: Rough, \$13; Dressed, \$23; Spruce, \$16.50. The following cargo rates for Redwood Lumber are maintained by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|----------------------------------|---------------|---------|
| Rough..... | \$15 00 | \$11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, beaded..... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Siding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | — |
| Picket, rough, pointed..... | 16 00 | — |
| Picket, dressed..... | 22 50 | — |

San Francisco Retail Market Rates.

FRIDAY, October 13, 1871.

| MISCELLANEOUS. | |
|---------------------------|-------------|
| Butter, Cal. fr. @ 55 | @ 65 |
| Pine Apples, @ 55 | @ 65 |
| Do Oregon, @ 45 | @ 50 |
| Honey, @ lb..... | 25 @ 30 |
| Cheese, @ lb..... | 20 @ 25 |
| Eggs, per doz..... | 55 @ 60 |
| Lard, @ lb..... | 18 @ 20 |
| Sugar, @ lb..... | 10 @ 13 |
| Brown, do..... | 10 @ 13 |
| Beet, do..... | 1 00 @ 1 10 |
| Sugar, Map. do..... | 25 @ 30 |
| Plums, dried, @ lb..... | 15 @ 25 |
| Peaches, dried, @ lb..... | 15 @ 25 |

| PRODUCE, ETC. | |
|------------------------------|---------------|
| Codfish, dry, @ lb..... | 8 @ 10 |
| Flour, ex. @ bbl..... | 8 00 @ 8 50 |
| Superfine, do @ 60..... | 67 00 @ 67 50 |
| Corn Meal, 100 lb. @ 30..... | 63 25 @ 63 50 |
| Wheat, @ 100 lbs..... | 2 15 @ 2 25 |
| Oats, @ 100 lbs..... | 1 90 @ 2 10 |

| FRUITS, VEGETABLES, ETC. | |
|-----------------------------|---------------|
| Pine Apples, @ 55 | @ 65 |
| Bananas, @ lb..... | 3 00 @ 3 50 |
| Cal. Walnuts, @ lb..... | 20 @ 25 |
| Cranberries, @ lb..... | 75 @ 100 |
| Cranberries, @ lb..... | 75 @ 100 |
| Apples, Early, @ lb..... | 50 @ 55 |
| Red Astrakhan, @ lb..... | 1 50 @ 2 50 |
| Red June, @ lb..... | 2 00 @ 2 50 |
| Pears, table, @ lb..... | 75 @ 125 |
| Plums, Cherry, @ lb..... | 6 @ 8 |
| Tame, do, @ lb..... | 10 @ 12½ |
| Apricots, Royal, @ lb..... | 3 @ 4 |
| Moopark, @ lb..... | 3 @ 5 |
| White, @ lb..... | 2½ @ 4 |
| Raspberries, @ lb..... | 18 @ 20 |
| Blackberries, @ lb..... | 2 @ 3 |
| Oranges, @ cwt..... | 30 00 @ 35 00 |
| Lemons, @ cwt..... | 5 00 @ 6 00 |
| Limes, cwt..... | 25 00 @ 30 00 |
| Figs, dried, @ lb..... | 10 @ 12½ |
| Asparagus, @ lb..... | 37½ @ 40 |
| Artichokes, doz..... | 6 @ 10 |
| Brussels sprouts, @ lb..... | 20 @ 25 |
| Beets, @ doz..... | 20 @ 25 |
| Potatoes, @ lb..... | 2 @ 3 |
| Potatoes, sweet, @ lb..... | 4 @ 5 |
| Broccoli, @ doz..... | 5 @ 10 |
| Cauliflower, @ lb..... | 1 00 @ 1 50 |
| Cabbage, @ doz..... | 75 @ 150 |
| Carrots, @ doz..... | 10 @ 25 |

| POULTRY, GAME, MEATS, ETC. | |
|----------------------------|-------------|
| Chickens, apiece @ 50 | @ 75 |
| Turkeys, @ lb..... | 50 @ 75 |
| Ducks, wild, @ lb..... | 50 @ 75 |
| Tame, do, @ lb..... | 50 @ 75 |
| Teal, @ doz..... | 3 00 @ 4 00 |
| Geese, wild, each @ 50 | @ 75 |
| Tame, @ pair..... | 2 50 @ 3 00 |
| From Chicago..... | 75 @ 100 |
| Hens, each..... | 75 @ 100 |
| Snipe, @ doz..... | 2 50 @ 3 00 |
| English, do..... | 12½ @ 18 |
| Venison, @ lb..... | 12½ @ 18 |
| Quails, @ doz..... | 25 @ 30 |
| Pigeons, dom. do..... | 25 @ 30 |
| Wild, do..... | 1 50 @ 2 00 |
| Hares, each @ 40 | @ 50 |
| Rabbits, tame..... | 50 @ 60 |
| Wild, do, @ pair..... | 75 @ 100 |
| Beef, @ lb..... | 20 @ 25 |
| Sirloin and rib @ 18 | @ 20 |
| Corned, @ lb..... | 10 @ 12 |
| Smoked, @ lb..... | 15 @ 18 |
| Pork, rib, etc., @ lb..... | 12½ @ 15 |
| Chops, do, @ lb..... | 12 @ 15 |
| Veal, @ lb..... | 12 @ 15 |
| Cutlet, do..... | 12 @ 15 |
| Mutton chops, @ lb..... | 12½ @ 15 |
| Leg, @ lb..... | 12½ @ 15 |
| Lamb, @ lb..... | 12 @ 15 |
| Tongues, pig, ea @ 15 | @ 20 |
| Tongues, pig, ea @ 15 | @ 20 |

* Per lb. † Per dozen. ‡ Per gallon.

THE RURAL PRESS.—We have received in exchange the RURAL PRESS, published by Dewey & Co., San Francisco; also the SCIENTIFIC PRESS. For the farmer no better paper exists in the State, and the latter is invaluable to the mechanic. They are both most ably edited. We regard the PRESS as one of our best exchanges. —Mendocino Herald, Ukiah, Sept. 30th.

THE VISALIA DELTA has been recently enlarged, and is now one of the largest, best printed and most extensively circulated local weeklies in California. A new job press and material have lately been added to the office to meet the wants of a thrifty and growing community in one of the most promising agricultural districts of the State. E. M. Dewey, proprietor.

LADIES DESIRING TO PROCURE A FIRST-CLASS SEWING Machine against easy monthly installments may apply to No. 294 Bowery, 157 E. 26th, 477 9th Ave., New York Good work at high prices if desired. 21v1-12mbp

Leather Market Report.

[Corrected weekly by Dolliver & Bbb., No. 109 Post st.]

SOLE LEATHER.—San Francisco, Thursday, October 12. City Tanned Leather, @ lb..... 26@29

Santa Cruz Leather, @ lb..... 26@29

Country Leather, @ lb..... 25@28

French stock comes in more freely and prices are easier in leading skins. The cheaper grades still continue firm. California kip and calf skins are still scarce and high.

Jodot, 8 Kil., per doz..... 80 00@ 95 00

Jodot, 11 to 19 Kil., per doz..... 80 00@ 95 00

Jodot, second choice, 11 to 19 Kil., per doz..... 80 00@ 95 00

Lemoine, 16 to 19 Kil., per doz..... 80 00@ 95 00

Levin, 12 and 13 Kil., per doz..... 80 00@ 95 00

Cornellian, 16 Kil., per doz..... 72 00@ 80 00

Cornellian, 12 to 14 Kil., per doz..... 65 00@ 70 00

Ogerau Calif., @ doz..... 51 00@ 54 00

Merced Calif., 16 Kil., per doz..... 51 00@ 54 00

Robert Calif., 7 and 8 Kil., per doz..... 35 00@ 40 00

Common French Calf Skins, @ doz..... 35 00@ 40 00

French Kips, @ lb..... 1 00@ 1 30

What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*
The first No. evinces marked editorial ability.... Fills up a vacancy that has been felt in our agricultural department.... With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—*[Sonoma Dem.]*
It is a work which no farmer should be without.—*[Yreka Union.]*

An admirable specimen both as to execution and contents.... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—*[Stockton Daily Ind.]*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—*[Eucinal Alameda.]*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*[Eucinal.]*

They can, if they will, make it a creditable work. [We will that.] It opens well.
Excellent paper and type—and a first-class agricultural journal.... Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—*[Vallejo Recorder.]*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—*[Arizona Miner.]*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—*[Yuba Statesman.]*
Just the kind needed on this coast, and merits an extended circulation.—*[Red Bluff Independent.]*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation.... Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—*[Pajaronian.]*
We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to combine the Scientific Press to mining and mechanical arts, and have therefore started the Pacific Rural Press.

If the first number is to be taken as an earnest of what will follow, each week, we can advise to all interested in agricultural pursuits, subscribe.—*[Vallejo Chronicle.]*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy and enterprise.—*[Eucinal, S. F.]*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—*[Yolo Mail.]*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press," which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—\$4 or more, a club of 10 or more, \$35. Sample copies sent on receipt of a postage stamp.—*[Alpine Miner.]*

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—*[Democrat, Downville.]*

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—*[Alpine Chronicle.]*
The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—*[Christian Advocate, S. F.]*

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—*[Helena, (M. T.) Gaz.]*

Will be found worthy the patronage of the people of this State.—*[Argus, Snelling.]*

We heartily welcome the new publication.
The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—*[Inyo Independent.]*

FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a taking picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

PREMIUM FARM CRIST MILL.

Simple, Cheap and Durable.



It is adapted to all kinds of Powers, and Grinds all kinds of Grain rapidly.
Send for Descriptive Circular.

WM. T. BOYER & BRO.,
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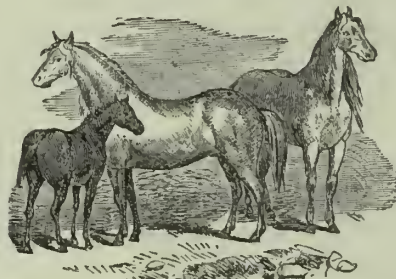
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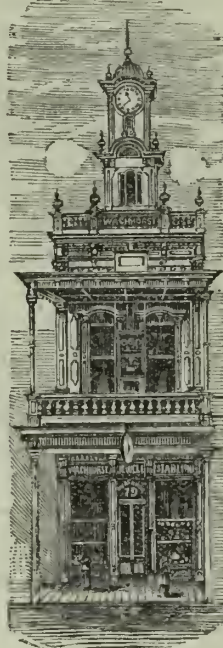
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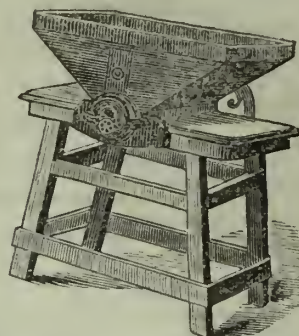
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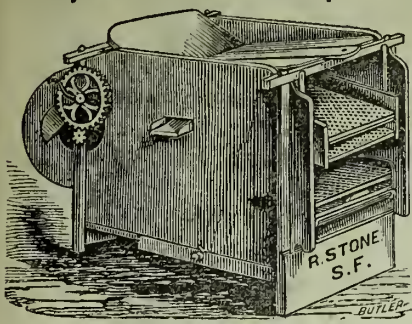
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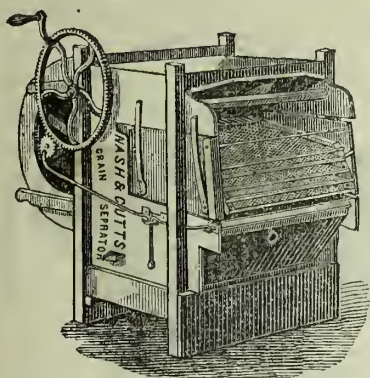
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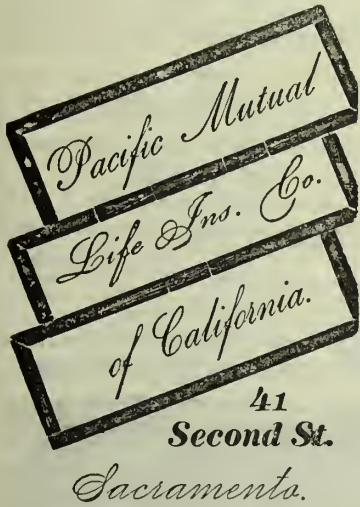


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1871.

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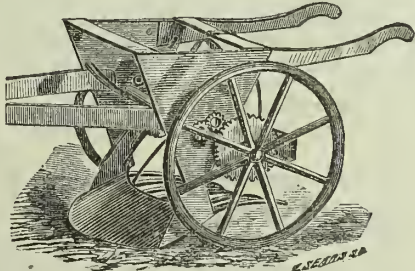
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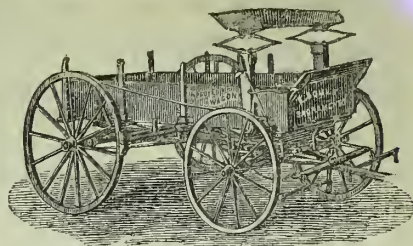
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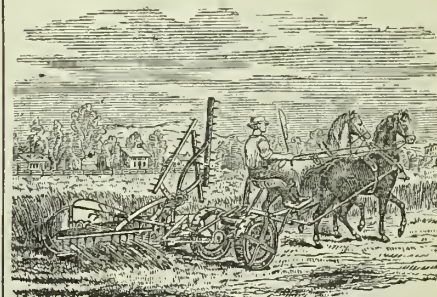
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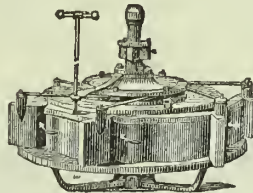
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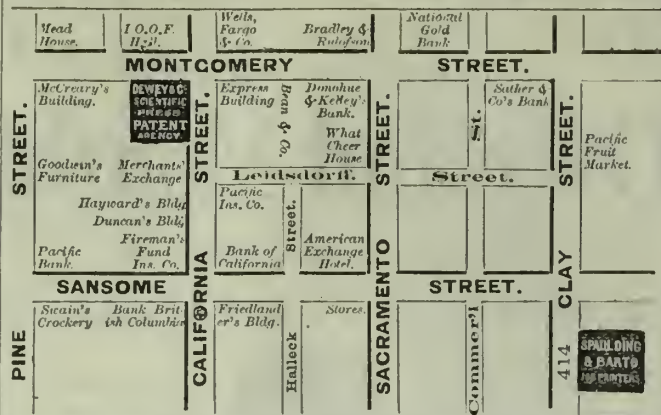
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by W. A. Z. Edwards, three miles north of San Jose, on the Alviso road, Santa Clara county, Cal. 15v2-3m

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GEO. H. STENO,
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PATENT AGENCY, 338 Montgomery St., 3d floor, S. E. cor. California, S. F.

THE PEOPLE'S PRACTICAL POULTRY BOOK, A Work on the Breeds, Breeding, Rearing and General Management of Poultry, BY WM. M. LEWIS.

Illustrated with over 100 Engravings.

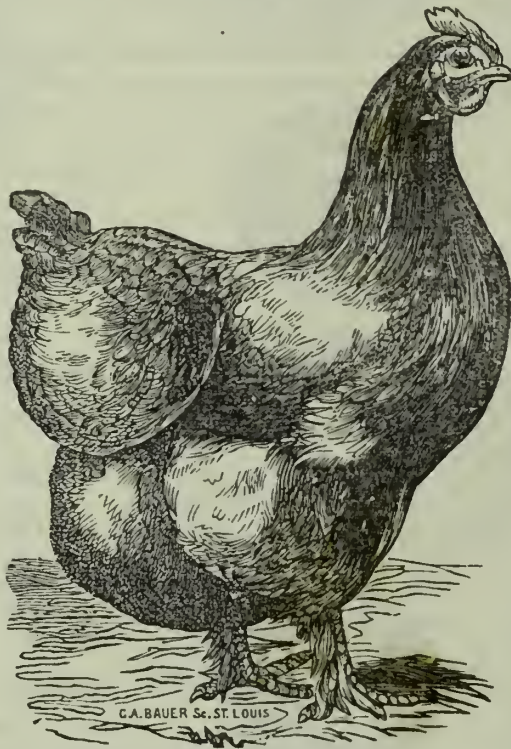
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The following recent notice of this book gives the reader a limited idea only of its practical value:

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The poultry yard produces food which is highly palatable and convenient at all seasons, but if left to take care of itself, the products are often wasted, and the occupants one-half the year non-layers. The general management of fowls; fattening and preparing for market; varieties, history and characteristics of breeds are matters described in their order. The management and breeds of turkeys, varieties and management of ducks, and different breeds and care of geese, are specially noticed. The book contains a chapter on the diseases of poultry, the symptoms, care, treatment, preventives, remedies, etc., and will be found of great interest and use to the housewife who delights in looking carefully after her feathered pets.

There is a chapter on "caponizing," which will be one of interest to persons in this country, as it is a matter to which little attention is paid, outside of Europe. The *modus operandi* is described minutely, so that one unaccustomed to performing it might do so without danger to the fowl. A short sketch of the anatomy of the egg is also given, and the hatching and rearing of chickens, by artificial means, is treated of at some length. In connection with the latter subject are numerous engravings of different incubators with an explanation of each.



C. A. BAUER, SC. ST. LOUIS

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Pacific Bridge Company

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Smith's Cast Iron Pier, durable as stone, and adapted to resist rapid currents, put in at low rates. Address PACIFIC BRIDGE CO., 3v2-3m-cow Oakland Cal.

State Fair Gold Medals.

The Committee to award the Gold Medals offered by the State Agricultural Society for 1871, will meet at the Society's rooms, corner Sixth and M streets, Sacramento, November 1st, at 2 o'clock P. M. Prior to that time all claimants for any of said Medals are required to furnish to the undersigned a statement in writing of all facts and statistics relative to the manufacture or production of the article or articles upon which they claim the award of the Medals, or upon which they base their claim of merit. I. N. HOAG, Corresponding Secretary.

A Novelty Printing Press for Sale.

It is a new foot-power Press, and just the thing for a small country job office or for amateur printers, and druggists and others who wish to do their own printing. At manufacturers' price, with freight added. Enquire at this office. 11v2tr-1ams

Orange Trees! Orange Trees!!

I now offer to Planters and Dealers a large and splendid stock of ORANGE, LEMON, LIME, and ENGLISH WALNUT TREES. Also, a limited amount of Grafted Orange on Lemon Stock.

At Lowest Market Rates. Address P. O. Box 265, Los Angeles, Cal. 13v2-6m THOS. A. GAREY.

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Vegetable, Flower, Field, Fruit and
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GARDEN TOOLS, PLANTS, TREES,

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Between Battery and Front.....SAN FRANCISCO.

6v2-1y4p

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Corner Sixteenth and Castro Streets, OAKLAND.



Importer and Breeder of CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale. Address, with stamp, P. O. Box 659, San Francisco.

NOW FOR SALE.

TWO YOUNG

BERKSHIRE BOARS,

—OF—

PURE BLOOD.

Being of the lot of six pigs which drew the

First Premium

At the late California State Fair.

Also, a few pigs, three months old, of the same stock. For further particulars, apply to

R. S. THOMPSON.

Napa, Cal., Sept. 27, 1871.

14v2-2w

STANDARD American Billiard Tables AND COMBINATION CUSHIONS!



Endorsed for Accuracy and Durability by all the best players. Tables of all Sizes, Styles and Finish. Particular attention is called to our NEW DESIGN, Patented June 6, 1871.

Balls, Cloth, Cues and every article relating to Billiards, for sale by GEO. E. PHELAN, 11v2-3mbp 541 Market street, San Francisco.

YOSEMITE HOTEL,

YOSEMITE VALLEY,

J. M. HUTCHINGS.....Proprietor.

Hutchings still lives and keeps his House open. He makes no special profession about his Hotel, being satisfied that its accommodations and table are not excelled by any in the Valley. He still cheerfully gives information on all subjects connected with Yosemite, and will be happy to welcome his guests.

F. A. ROULEAU,

SEARCHER OF RECORDS,

No. 620 Washington Street,

SAN FRANCISCO, CAL.

2v2-2m

SEED WHEAT.

THE CELEBRATED EXCELSIOR SEED WHEAT CLUB CHILE, AUSTRALIA & SONORA WHEAT, FOR SEED.

For sale in lots to suit by McNEAR & BRO., 15v2-3m 302 Davie street, San Francisco.



Volume II.]

SAN FRANCISCO, SATURDAY, OCTOBER 21, 1871.

[Number 16.]

IMPROVEMENT OF NEAT CATTLE.

The animal whose portrait is herewith given—Prince George of Cambridge—was brought to this State by J. D. Patterson, in 1860, and died in 1864. His pedigree is recorded in the American Herd Book, Vol. 2, page 214. His portrait is introduced as the foundation for a few remarks which we desire to make upon

The Proper Selection of Bulls.

which is one of the most important points in the whole range of facts and duties connected with the increase and improvement of our neat cattle. In this selection there are certain characteristics which should always be sought for and which are found, more or less strongly developed, in every thoroughbred individual, whether short-horn or any other approved breed of neat cattle. The desired combination, which is universally approved by all intelligent cattle men, is strongly marked, in nearly every particular, in the annexed portrait, and may be described substantially as follows:—

The head should be fine in all its parts, yet masculine, and denoting in a high degree the superiority of his sex in strength and form; the muzzle small; the nostril wide and open; the nose cream color, orange, or drab, even a nut brown, but never smoky or black, the latter being an indication of inferior blood; the face and jaws should be lean of flesh; the forehead broad, the face slightly dishing or concave; the eyes prominent, bright, mild, and lively; the ears small, and lively in action; the horns well set, flattish in shape, and waxy, not white in color, with no black, except at the very tips, inclining outwards, and not much upward.

The neck should be somewhat arching, as showing strength and masculine power, and setting back well on the shoulders, with a clean throat and no dewlap, except a slight pendulous thread of skin at the brisket.

The shoulders should be set wide, straight, and open at the top, smooth at the points, with a bull-neck rein, ending below with a full, thick brisket, projecting well forward. The knees should stand wide, and below them a firm, compact leg, ending in a clean, well-shaped hoof. The chine and back should be on a level from the shoulders to the tail; the ribs round, springing roundly in an arch from the back, and running down to give full room for the heart and to play in a broad, deep chest, and running back towards the hips, so as not to leave the belly looking paunchy.

The hips should be wide, and on a level with the back; the flank full and low; the loin full, long, and broad; the rumps level, and well shaped; the tail set symmetrically and level, small, and round in shape; the thighs broad, but not "buttocky;" the twist (space between the thighs) full, and well let down; the gambrel joints straight, as in the horse, and the leg below fine and sinewy. The temper of the beast should be mild and gentle.

These points constitute a finely shaped, vigorous, and almost perfect animal.

As to color, tastes differ. Red, red and white, and the red roans are mostly preferred; but any color from red to clear white is a good short-horn color, if the animal be otherwise good. White is usually least preferred, simply as a matter of taste, for as good white cows and bulls are met with as of any other color, but less in number, for the simple reason given. That color is not so salable as the red or roans; but in reality it is of little consequence what the color may be so that the animal itself is good.

There are two other points, which are considered indispensable in constituting a first-class bull. These are fineness of bone, and a soft, elastic touch. The first is readily known by the general smoothness of the carcass, indicating a good feeder; the

SIGNS OF RAIN.

There are many signs of early and free supplies of rain. In the mountains and mining districts of Nevada the streams are reported rising in consequence of the diminution of evaporation. There have been in some districts considerable falls of snow, as well as on the plains, and showers in Santa Barbara have been reported; all of which are unusual at this early period of the autumn, and augur an early supply of water now so sorely needed for mining purposes. For agricultural needs early rains are not indispensable, but heavy rains preparatory to plowing, a month later, will be

THREE CROPS OF POTATOES.—TULE LANDS.

We have been shown a very fine sample of the Early Rose potato, being a part of the second crop of potatoes raised this season on Pool's farm, situated at the head of Steam Boat Slough on the Sacramento river. The seed for the first crop was planted on the 23d of last February and harvested about the 20th of June. The yield was twenty tons per acre, of a very superior quality of potatoes.

The vines were at once cleared off and the land plowed and replanted with some of the seed just dug. The second crop is now being gathered and is yielding well, the potatoes also being very superior.

We understand that a part of the same land will again be planted at once for the third crop, with a good prospect that this may mature and be harvested before the frost shall interfere.

In these Facts

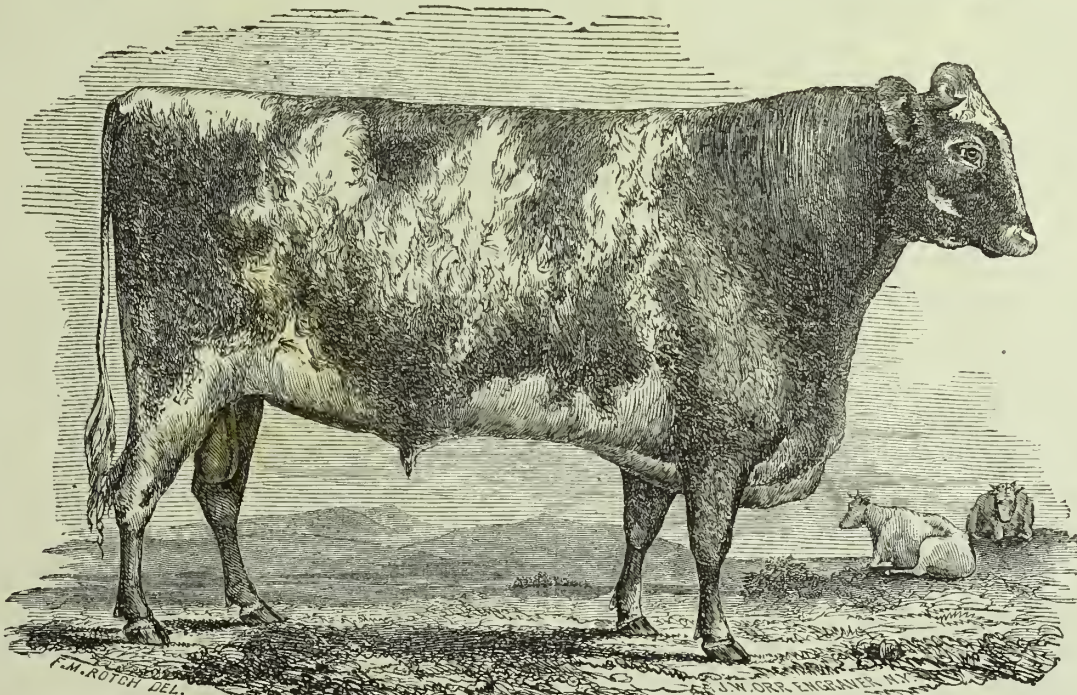
are found a very emphatic recommendation of the Early Rose potato as adapted to the lowlands about the confluence of our inland rivers, as well as a very striking illustration of the great value of these lands themselves. While our State has been visited by a drouth that has destroyed the crops in nearly all portions of the great inland valleys this season, these low tule lands wherever they have been under cultivation have produced in an almost incredible manner.

Sherman Island.

The exhibition of grain, vegetables and fruit at the State Fair this year, from Sherman Island, also shows the wonderful productiveness and great value of these lands, and gives an additional evidence of the almost innumerable and inexhaustable resources of our State.

To a resident of this Island were awarded two of the four premiums offered by the society for best samples of wheat; also the first premium for barley. To another was awarded the first premium for corn, for garden peas, summer squash, cucumbers, onions and potatoes; also the first premium for the largest and best display of vegetables raised by any one person in the State. From this Island were also shown some very fine specimens of grapes. All these facts go to prove that however great may have been the drouth, and however destructive to the agricultural interests of other portions of the State, we have in these lowlands a perfect guarantee against a universal failure.

In fact we are but just beginning to appreciate the value of these lands and we do not hesitate to believe that in less than ten years from this time the reclaimed tule lands of the State will yield an agricultural product of greater annual value than is now produced by the entire State.



PRINCE GEORGE OF CAMBRIDGE.

(TAKEN AT ONE YEAR OLD.)

other, by a fine wavy growth of hair, and an elastic feel to the skin and flesh beneath it, like that of an India-rubber ball. Fineness of bone and "good handling," as it is called, usually go together. A rough-boned, coarse animal, with hard handling, should never be selected as a breeding bull. If cows possess these harder qualities, and are otherwise good, they may produce quite tolerable calves, when coupled with fine bulls, and thus the stock may be improved; but every coarse bull calf should be rejected and never retained as a breeder.

DEVELOP HOME RESOURCES.—According to the Calaveras Chronicle, a large amount of money has been sent out of that locality for the development of the silver mines of Nevada, not one dollar of which has ever been returned; while but very few of those have been benefitted who have chosen to transfer their individual field of labor from this locality to Silver Land. The Chronicle makes use of this fact as a text from which to urge upon people generally the policy of the development of their home resources, when they have any, as is the case with Mokelumne Hill, and vicinity. Its advice is applicable to many other localities.

LACE MANUFACTORY.—It is proposed to build a lace manufactory at Salt Lake City.

welcome. The great want of rain now is for mining uses.

Many important quartz mines are now idle for want of water. It is estimated that a free supply of that indispensable element at this time would add near a million dollars a month to our present yield of bullion.

The nights of late in the counties to the north and contiguous to San Francisco Bay have been unusually cold, ice appearing for the first time last week in many places. Severe frosts have prevailed in some parts, which, according to the Santa Rosa Democrat, has damaged to some extent the corn and grape crops in Green Valley. Farmers in that neighborhood have been topping the stalks of corn, hoping by that means to hasten maturity before another visit of Frosty Jack.

On Monday October 9th, quite a heavy frost fell in the vicinity of Crow's ranch, on the Stanislaus river. The vines and leaves throughout the neighborhood were killed.

FARMERS' CREDIT.—The Sacramento Savings Bank has loaned \$118,000 on Solano and Yolo farming lands.

MECHANICAL PROGRESS.

Two Pounds of Coal per Horse Power.

It is said, according to the *Technologist*, that a firm in London is now constructing the most economical steam engines in the world. This firm guarantees a consumption of less than two pounds of coal per horse-power, per hour; and claims that in some cases their improved engines have, in actual practice, brought the figure as low as one pound per hour.

To realize the importance of this fact—if it is a fact—it should be borne in mind that ordinary steam engines generally require about 10 pounds of coal per horse-power per hour, when the boiler admits of the evaporation of only six pounds of water for each pound of coal consumed.

Cornish boilers, which are generally considered the most economical in use, ordinarily consume about six pounds of coal per hour, per horse-power; although in extraordinary cases they have been known to reduce this amount to three, and even two and one-half pounds. With the best coal, and careful firing they usually evaporate about 12 pounds of water for each pound of coal consumed; while the theoretic value of a pound of coal calls for the evaporation of only 14 pounds of water.

The great secret of the economy of the Cornish boiler is its proportionately large dimensions, with extensive heating surface; well arranged grates and furnace; beating of the feed-water by the escaping steam; high pressure in connection with proper cut-off arrangements; careful protection against radiation, and intelligent and faithful engineers and firemen. So much is often lost by injudicious firing, that a moderately good boiler and engine loses all claim to anything like reasonable economy.

DURABILITY OF STEEL RAILS.—On the London and Northwestern railway in England, there is, near London, a narrow throat in the line, from which converges the whole system of rails employed in the London termini of this great railway. Here all passengers, goods and coal traffic have to pass; here too, the making up of trains and shifting of carriages is continually going on. Mr. Henry Bessemer says: At this particular spot two steel rails were fixed on May 2d, 1862, on one side of this line, and two new iron rails were on the same day placed precisely opposite to them, so that no engine or carriage could pass over the iron rails without passing over the steel ones also. When the iron rails became too much worn to be any longer safe for the passage of trains they were turned the other way upwards, and when the second side of the iron rail was worn as far as the safety of the traffic would allow, the worn out rail was replaced by a new iron one—the same process being repeated as often as was found necessary. Thus we find, at the date of the last report, March 1st, 1865, that 7 rails had been entirely worn out on both faces. Since then another rail has been worn out up to July. The endurance, under this severe test, of steel rails, over iron was as one to 16. The testimony is conclusive and irrefutable. This crucial experiment is cited by various writers, and is well known. When finally the steel rails were removed, they were found to be worn down to a thin blade, but preserved their form and tenacity uncrushed to the last!

A PRACTICAL ENGINEER'S EXPERIENCE WITH STEAM.—The following incident communicated to the *Scientific American*, by S. J. Dieter, of Saginaw City, should be read and kept in mind by every engineer. It furnishes the fullest proof of the rapid production of steam in a boiler, where the pressure is suddenly removed in starting, after the engine has been for some minutes at rest:—

I am an engineer of some experience, and I find if my boilers are tight, and I shut down my engine for a short time, no water going into the boilers, so that everything is at rest in the boilers, when I start my engine, the steam will invariably rise

in the boilers, so as to show more pressure on the pressure gauge.

I remember well on one occasion, when I was engineer on the tugboat H. P. Clinton, on the Saginaw river in 1862, we were laying out on Saginaw bay, waiting for some vessels we were expecting; my boiler was very tight, and I had pumped it up to the fourth try cock; we lay about twenty-five minutes with sixty pounds steam, when we sighted two vessels, and we started, and the engine did not make more than ten or twelve turns before the steam showed eighty pounds on the gauge; and I dropped the damper, and we did not get 100 rods when the steam had got to ninety pounds, and the safety valve blowing off vigorously.

My remedy is, when I stop my engines, to always have feed water entering the boilers, or the steam blowing off slightly. If you think this worth notice, it may save some valuable lives.

IRON SHUTTERS.—The *Insurance Monitor* questions the wisdom of iron shutters on the fronts of buildings, where the nearest exposure is across a street of fair width. The journal thinks that uncovered windows, with the police continually patrolling, would be a better security against fire than iron shutters, as the police or firemen could then have easy and prompt access to extinguish the same. Of course it is desirable to have iron shutters and doors to close all openings where exposures endanger a building, but we could name instances, not a few, where iron shutters and doors have proved the destruction of a building instead of its salvation. The above suggestions are of especial interest in view of the difficulties encountered at the late fire, which resulted in the destruction of the Harpending block, in this city.

Pneumatic Bells.

Efforts have been made to supersede by electricity the use of the wire connection with the common door bells. Electrical bells have been introduced into large buildings with some success. With this description of bell no movable wire is necessary, and the cranks are done away with. Such arrangements also facilitate the use of the indicator to show from which room the sound comes, but the objection to all such electrical apparatus has been that they require a battery which requires attention. The common bell has therefore been found superior in private houses, although the electrical bell has many advantages for public buildings.

A German invention, lately introduced into England, provides a pneumatic bell which has many advantages over the common style, and is both simple and ingenious. A leaden pipe, about as thick as a lead pencil, is used in place of wire; to one end of this pipe a piece of ornamental rubber tubing is attached, and at the end of this an india rubber ball. When the ball is compressed by the hand an air wave is sent through the tubing to the bell. At the bell end, this pipe terminates in small spear-shaped bellows of rubber, from which rises a rack which engages a toothed wheel, which moves a hammer and thus rings the bell.

Large pneumatic bells constructed on this principle, have been applied to three of the largest vessels in the French navy, in communication from the engine room to the deck. They have also been introduced into some French merchant steamers and English men-of-war. The common bell wire stretches and the cranks get out of order, the electrical bell is complex and requires attention, but the pneumatic bell would seem to obviate these difficulties.

A modification of this invention is highly useful for offices, dwellings, etc.; and consists of an arrangement for opening a door by a person sitting at a distance from it or in another room. The gentle pressure of the air in a pipe is made to release a detent, which forces a spring and the door springs open.

PAPER FROM HOP VINES.—In the region of Marseilles, France, a beautiful white paper is made from hop vines, and its strength in connection with its pliable texture, renders it a favorite with those who have tested its merits by actual use. The hop vine is well known as a very strong, pliable fibre, and there is no question but that it would make an excellent paper. Its scarcity, however, will not allow of its extensive use for such a purpose.

SCIENTIFIC PROGRESS.

Agassiz Coming to San Francisco—Scientific Researches.

Prof. Agassiz is about setting out from Boston on a deep sea exploration. His observations will be made between the Atlantic Coast and the deep ocean to the eastward. To accomplish this he will proceed on board a U. S. coast survey steamer, in a zig-zag course, as far as Cape Horn. He carries dredging apparatus capable of working at a depth of about 3½ miles. After doubling Cape Horn he will proceed up the western coast of the continent in the same manner as far as this port, dredging and sounding all the way. His observations will undoubtedly add much to our present knowledge of the ocean's bottom, and of the conditions of animal life at great depths beneath the ocean's surface.

In so long a trip, through such varied climates, and during calls at the many ports at which a steamer must necessarily stop, on such a voyage, the Professor, with his natural habit of observation, cannot fail to collect much information, aside from the specific object of his mission. The arrival of this distinguished scientist in San Francisco, will be an event of no ordinary importance, the more especially as he will come freighted with so much that will be new and interesting in the line of progressive science.

TREMULO FOR REED ORGANS.—A patent was recently issued at Washington for the application of a rotary prism to organs or melodeons in such way that the sound waves can strike it at different angles, to be reflected in different directions, and thus produce the desired tremulous effect. If preferred, a quadrangular or rhombic prism may be used. It is made of thin wood or other light material, preferably hollow. It is connected with the shaft of the wind wheel, which, when revolved, will impart rotary motion to the prism. The wind wheel is arranged and moved in the ordinary or other suitable manner. When the sound waves strike the revolving prism at different angles, they are reflected with greater or less force, according to the difference of angles, on the same principle as waves of light are reflected, and thus produce the desired tremulous effect. The prism is to be placed in a position where the sound waves can strike it directly after they leave the reeds.

A NEW TEST PAPER.—Professor Böttger, announces the discovery of a new reagent, which, he asserts, is highly sensitive to the alkalies. It is a coloring extract of the *coleus verschoffelti*, and is produced by digestion, for 24 hours, in pure alcohol, to which a few drops of sulphuric acid have been added. The hue is a brilliant red, which turns green on contact with any alkali. It is not affected by carbonic acid, and will detect the slightest trace of ammonia in illuminating gas, if moistened and placed against an open jet. The presence of the minutest quantity of a carbonate of any of the alkalies is detected by it.

THE NEBULAR HYPOTHESIS has received new confirmation from the discoveries made by the spectroscope. Prof. Kirkwood states, in the *American Journal of Science* "that it has demonstrated the present existence of immense nebulous masses such as that from which Laplace supposed the solar system to have been derived." It has shown, moreover, a progressive change in their physical structure, in accordance with the views of the same astronomer. In short, the evidence afforded by spectrum analysis in favor of the nebular hypothesis is enlusive; and of itself sufficient to give this celebrated theory a high degree of probability.

EFFECT OF CASTOR OIL ON LIGHT.—O. Popp has observed that castor oil turns polarized light to the right, and differs in this respect from all other fats. He also found all the commercial castor oil to contain nitrogen, and finds in these facts supports of his previously expressed opinion, that the purgative properties of this oil are due to a nitrogenated body, probably an alkaloid.—*Archiv d. Pharm.*

A New Source of Electricity.

James St. Clair, communicates to the *London Chemical News* the fact that he has recently discovered a new source of electricity. He relates that in the course of some experiments relative to sulphur and phosphorus, his attention was drawn to their mutual action while in alkaline solutions, and it occurred to him that probably from this there might be derived an electric current.

In order to ascertain this, as well as to determine—should there prove to be such—whether it was constant or not, there was prepared a cell containing a solution of caustic potash in which phosphorus and sulphur, both in sticks, were placed. Within half an hour the phosphorus was reduced to an oily mass perfectly mobile, occupying the lower part of the cell; the sulphur was not at first affected. The temperature at first rose considerably—about 20°—but this soon passed off, and the solution returned to the temperature of the surrounding medium, varying from 56° to 60° F. During the first six days there was a constant development in small quantity of phosphuretted hydrogen in the spontaneously inflammable form, but after that time, although phosphuretted hydrogen still continued to be evolved, it no longer ignited spontaneously, this being probably due to the simultaneous development of sulphuretted hydrogen, which began to be exhaled in appreciable quantity about this time. At first the sulphur was little affected, but at the end of ten days it was found that at the point of junction of the phosphorus therewith there had occurred considerable loss of substance.

In the solution there were produced sulphite and phosphite, hyposulphite and hypophosphite, and slight traces of sulphate and phosphate of potassium. At the end of three months the conditions were still much the same.

Subsequent experiments showed that the electro-motive force, as registered by the electrometer, was as 162 to 120, when compared with a Daniell's battery—showing a difference in favor of the sulphur and phosphorus of 42°. Mr. St. Clair is engaged in further observations on this subject, the result of which will be made known at a future time.

TO MAKE A MALARIOUS DISTRICT HEALTHFUL—FLOWERS AS A DISINFECTANT.—Prof. Mantegazza has discovered that ozone is developed by certain odorous flowers. A writer in *Nature* states that most of the strong-smelling vegetable essences, such as mint, cloves, lavender, lemon, cherry and laurel, develop a very large quantity of ozone when in contact with atmospheric oxygen in light. Flowers destitute of perfume do not develop it, and generally the amount of ozone seems to be in proportion to the strength of the perfume emanated. Professor Mantegazza recommends that in marshy districts and in places infested with noxious exhalations, strong-smelling flowers should be planted around the houses, in order that the ozone emitted from them may exert its powerful oxidizing influence. So pleasant a plan for making a malarious district salubrious, only requires to be known to be put in practice.

NEUTRAL SOLUBLE GLASS AS A WASHING MATERIAL FOR WOOLEN GOODS, is said to be the best substance that can be applied to that purpose. One part of the soluble glass is added to 40 parts of water at 45° R. In this solution the wool is immersed and worked about for a short time with the hand, and then rinsed in cold water. The results are said to be surprising, the wool emerging clean, white, soft and without odor.

VEGETABLE CARBOLIC ACID.—It is said that a plant called *Andromeda Leschenaultii*, growing in the Neilgherry hills, in India, has been found to yield carbolic acid. Mr. Broughton, the Government medical officer for the district, reports that it is far superior in purity to the ordinary product of coal tar, being less deliquescent and free from any admixture of noxious concomitants. As its cost is far above that of the mineral product, and as the latter can be chemically purified, the discovery has no economical or commercial value; but it is interesting as a botanical and chemical fact.

FOSSILIFEROUS GRANITE.—M. Reinsch, inspector of mines at Gotha, states that he has recognized organic remains, both animal and vegetable, in certain granite rocks heretofore reputed to be of igneous or eruptive origin.

CORRESPONDENCE.

A TRIP TO MONTANA.

BY OUR OWN TRAVELER.

Agriculture in Bitter Root Valley.

On both sides of Burnt Fork Creek, a small stream that flows into the Bitter Root River, are some fine and productive ranches. A flour mill run by water power, is at the head of the creek. C. Keeny, who has a fine farm in this vicinity, put in 75 bushels of club wheat that will yield 30 bushels to the acre. The stock are fed but little hay during the year, there being generally plenty of grass in the valleys and foot-hills.

Pardee's Ranch,

at the mouth of Gird Creek, is rented by Mr. N. Howerton. He planted a quarter of an acre of land with some Sonora wheat from California, which has yielded 18½ bushels. The wheat is very fine, and was planted on April 18th, and harvested Aug. 1st. The 80 acres of club wheat on this ranch average 30 bushels to the acre, and the oats from 60 to 65 bushels. Mr. H. has a champion mower, and finds lucrative employment aside from cultivating his own place, in cutting the crops of the farmers in the vicinity. Farm hands are paid two dollars per day and board. Mr. Howerton informs me that there are very few gang plows in the valley, and that he procured his from California. He suggests that some of your Agricultural implement dealers in San Francisco take some interest in the Montana trade. The territory is not so distant but that San Francisco goods could be introduced.

Chaffin's Ranch

consists of 320 acres of land fenced, upon which there are 75 acres of wheat and oats that will average 35 bushels to the acre. One of the apple trees in this place, which was planted three summers ago, is over seven feet high; it was brought from Oregon when a small plant. Mr. C. has 135 head of fine cows, which are worth from \$70 to \$90, currency. A good cow will have two calves in three years, and the calf is usually worth from \$25 to \$30 when five months old. The soil on this ranch, and the others near by, is easily plowed. Parties who have taken up land in the neighborhood, are constructing a ditch, 12 feet wide on the bottom, for the purpose of conveying water from the river for a distance of 16 miles, for irrigating purposes. It will furnish water for some 2,000 acres of land, the black soil of which is from three to eight feet deep. This is a stock company formed by the farmers themselves, the shares of which have been sold for \$50, and the project will be completed by next May. On

Lent's Farm,

several of the Cotswold sheep sheared eight pounds, but averaged about five. Mr. Lent has been in the valley about five years, and says that he never had to feed his stock a pound of hay, although he keeps a stock on hand for fear of a bad winter. Montana Territory is one of the finest places for a sheep country that I have ever seen, and this branch of industry will be a prominent one before long.

Blake and Nelson sowed 90 acres of wheat, which yielded 2,000 bushels.

Robert Nelson

will raise 15,000 pounds of onions, 10,000 pounds of cabbage, and 10,000 pounds of different kinds of melons. The onions will average a pound and a half, although some go as high as two and three pounds. Mr. N. sowed 15 acres of wheat this year, from which he will get 500 bushels. This ranch is on Sweat House Creek, so called from the fact that the Indians have a few small sweat-houses near by. These houses or tents, are made of poles 8 or 10 feet long, which are covered with hides. The Indians, when sick, heat large stones and place them in the interior and then close themselves in, and while perspiring freely they jump into the cold water of the river. This cures them of fevers, although one would suppose that it would kill instead.

Willow Creek Settlement,

is a small place, near which are 50 or more ranches. The crops and vegetables are all good this year, and the place, for so small

a one, is in quite a flourishing condition. The climate is very mild in this valley, and is peculiarly healthy. There was not over six inches of snow at any time last winter and it melted very soon after falling. On the coldest day in the valley last year the thermometer stood at 5° below zero, but this weather did not last more than 48 hours. This is perhaps the mildest location in Montana. The summers are very warm and pleasant; the warmest day last summer the mercury was at 86°. The principal rains are in the fall, and spring irrigation has to be resorted to. The farmers as a general thing do not plow very deep—from four to six inches. A traveler informs me that one can stand on St. Mary's Peak and have a beautiful view of a number of lakes in the high mountains, varying from fifteen to half a mile in width; small streams run down from these lakes into the valleys. Snow can be seen on some few of the summits of the Bitter Root Range throughout the year.

Large fires are raging in the mountains on both sides of the valley, shutting out the view on account of the smoke. Fine large groves of pine trees cover these mountains.

The Indian Question.

This valley from the Lolo Fork up, is the provisional reservation of the Flat-head tribe, according to the treaty of 1855, which provides that it shall be surveyed, and if found suitable for their wants it shall be made permanent at the discretion of the President. The Indians having lived in the valley for a long time, are unwilling to give it up, and lately have had a "Big Medicine" talk over the matter, though they say they will resign their rights if the President thinks it right. There are, however, only 34 men and a number of women and children, and when the treaty was made in 1855 there were 150 men. The tribe wish the white people to leave, while the settlers are urging the Governor of the Territory to bring the matter before the President in order to have a final settlement. The land has never been surveyed, and the farmers wish it to come into the market. Many of the pioneers here don't know whether they can hold their land or not, and for that reason are slow in adding improvements to their places. Many Indians come from different parts of the country to fish, although the Flat-heads, who claim the valley, are the principal ones here.

The farmers here are very enterprising, and there is a bright future in prospect for the valley. It will be advisable for them to pay considerable attention to raising fruit trees as it is probable they will do better here than in any other part of the Territory. Quite a number of ditches are being, and will be, built for irrigation, which will make the land more valuable.

Jas. Buckley's Farm,

is between Stevensville and Missoula City. A stool of Norway oats grown on this place contained 32 well developed stalks, with 66 grains to the stalk, making in all over 2,000 grains, as the product of one grain. Mr. B. expects to harvest 100 bushels to the acre. These oats stand over six feet high in the field. I learn that a quartz lead, discovered some time since, back of Mr. B's house, is about being prospected to determine its richness. As this is in the same range of mountains as the famous Cedar Creek, both placer and gold mines may be brought to light.

Horse Plains,

is situated about 80 miles N. W. of Missoula, on Clarke's Fork of the Columbia river, with an increasing population of 40 or 50 people. A number of farms have been located, with from 30 to 60 acres in each under tillage. The vegetables raised in Horse Plains are larger than the average. Beets sometimes measure 30 inches in circumference, and weigh 15 and 20 lbs; cabbage, from 20 to 25 lbs each. Great expectations are based on the Northern Pacific Railroad running through this section.

W. H. M.

The Riverside Colony Association.

EDITORS PACIFIC RURAL: In your issue of the 30th Sept. is a very fair article, headed "Riverside Colony." We thank you for so favorable a notice, but there is one rather grave mistake. You say "there are about a dozen families in the valley." Now, if you would turn to your subscription list you will find that you have 14 subscribers from this place. For a dozen families it is doing pretty well.

One year ago, on the 19th of Sept. 1870, the President and Secretary of the associa-

tion, in company with Mr. Bradhurst and family, recently from China, camped upon our present town site, and about the 1st of Oct. 1870, broke ground on our irrigating canal. The work was more formidable than was anticipated, on account of the extreme drouth of the past two years; and there has been expended, in hard cash, over \$50,000. It was thought that the first canal would be completed in time for spring crops, but instead of that it was not completed to town until July, and work is still progressing below to furnish water to settlers located in that region.

And now as to the correction. Instead of one dozen families, we have thirty-eight, besides seventeen unmarried, who have land selected and are preparing to put in crops this fall. (By the by, here is a good chance for 17 good women to form co-partnership with these 17 bachelors).

Many families are to arrive this fall from the Eastern States—all substantial and industrious people, who come here to secure homes in one of the most salubrious climates in the whole country. Since the settlement there has not been a death among us, with a total population within 4 miles, of between 300 and 400. The location is peculiarly adapted to the successful cultivation of semi-tropical fruits, raisins and wine grapes, English walnuts, mulberry, (for silk culture,) poppy for opium, all northern fruits and vegetables. The location is also well adapted for wheat, barley, corn, etc. Indeed, any production of temperate and semi-tropical regions flourishes remarkably well. The Santa Anna river furnishes the colouy with an abundance of water for irrigation for the dryest seasons, besides a large water power. There is an abundance of stone for building material—granite, and an excellent quality of marble, clay for brick, and timber for fire wood, and pine lumber delivered here at \$24 per M.

We have made a grand start, far better than was anticipated, considering the necessary delays in constructing our canals. And you may rest assured that where there are 20 agricultural and over 50 secular and religious papers taken regularly, there need not be much fear as to failure, or imposition upon the public. I enclose you a package of our circulars which will furnish you much information.

JAMES P. GRAVES, Sec'y.

Riverside, San Bernardino Co., Oct. 5.

THE SPAN.

EDITORS PRESS:—The press of San Francisco at the present time is agitating the question of spanning the Bay with a bridge from Mission bay to the Alameda shoro, the nearest point of which is distant some seven miles, for the purpose of bringing the cars of the C. P. R. R. and other roads directly into the city. As usual with such great undertakings much prophesying is being done as to the great and lasting benefits that must accrue from the completion of such an enterprise—such as furnishing work for hundreds that are at present out of employment; the centralizing of the different depots in Mission bay, consequently improving property and thereby advancing the value of real estate; increasing our population; convenience and lessened expense in shipping freights, etc.

That such a bridge would prove of great advantage to residents of either side of the Bay, and a work worthy of its projectors, does not admit of a doubt, providing that certain conditions are complied with in its construction; and as it is probable that the citizens of San Francisco, Alameda and Oakland will shortly be asked to contribute something towards its erection, it would be well before committing ourselves to see that we have some rights guaranteed by which we may hope for a slight recompense in the money donated.

The excitement and glowing expectations of many on the completion of the transcontinental road, when it was expected that vast armies of intelligent and progressive people were only waiting to be transferred hither, is too vivid in the minds of many to need reminding of at this time. Having therefore been disappointed in our brilliant expectations, in the past, would it not be well at this time

to build on that which we can count on for a certainty.

That which would prove of the greatest benefit directly, in the construction of the bridge, would be a free roadway. Such an addition would be hailed with delight by all, would at once be popular as a place of resort, where all without distinction could go and enjoy the balmy air of the Bay, the beautiful scenery of the surrounding country, etc.; and besides would aid greatly in stimulating travel, business, and good feeling between the inhabitants on either shore. Long bridge on holidays and Sundays, is considered a pleasant place of recreation and is visited at such times by thousands; how much more would a free roadway be, such as contemplated above, and possessing such superior advantages.

If the city is to loan its credit or donate a certain amount of money therefor, her citizens would feel that such money would be well expended in the direct benefit that must thereby accrue.

However, by all means let us have a bridge, and one that will be substantial, and one that can be pointed to with pride as a work worthy of the name of California. But what shall be the character of the construction, seems to be the question. By some it is thought a bridge of piles, wholly constructed of wood, would tend to greater advantages now, as all the material used in its construction would be produced here, thereby keeping the money expended, in the country. Others again say fill in on each side as far as feasible, with stone and dirt from the hills back of Oakland and on this side, and build the remainder of iron or stone. Should it be of iron it would unquestionably prove a better and more substantial affair, but at the same time its cost, to a great extent would be expended outside of the industry of our people. The suggestion in the *Bulletin* that a permanent causeway be made leaving an opening sufficient for a tide way, seems to be the most feasible plan proposed, and one which could all be done by our own labor and material.

From the tenor of the press generally the project is looked upon as one that is needed and one that the times and spirit of the age will soon bring to completion.

D.

THE ABSORBENT POWERS OF A MELLOW SOIL.—Experiments have shown that a mellow, loamy soil is capable of absorbing in twelve hours, when exposed to a moist atmosphere, an amount of water equal to two per cent. of its weight. If any argument were needed to keep the soil mellow, here is a most powerful one to induce us. For this property possessed by a mellow soil is one that in a dry season is able to give it the power of maturing a crop when a hardened surface would be unable to do so. A surface that is impenetrable to the atmosphere, of course could not absorb any of the moisture with which the atmosphere is charged. But when rendered free from lumps by repeated plowings and harrowings, each change of temperature causes a circulation of air throughout the mass of soil, which is free then to absorb all, the moisture coming in contact with it until it is saturated. So, then, the more the soil is mellowed by cultivation, the less it is injuriously affected by drouth, and the better it is enabled to mature a fair crop in spite of the absence of rain.—*Hearth and Home.*

NEW SILVER DISCOVERIES are reported near the South fork of King's river, about fifty miles north-east of Visalia and near the base of Mount Whitney. According to the *Bakersfield Courier*, the beds are large and well located for mining operations. The discovery was made by a party of prospectors from Visalia, who brought back rich specimens of silver ore as evidence of the value of their discoveries.

PROFANITY, according to Senator Wilson, is a rare vice in the British Isles. He recently visited that country, and writing from London, says that notwithstanding he met rags and poverty and the most importunate begging, though it was then 18 days since he landed in Queenstown, he had not, up to that time, heard a profane oath. To our shame be it said that the United States of America leads the world in profanity.

A LARGE quantity of cord wood and some fences were destroyed on Tuesday of last week, near Calistoga.

FAIR OF THE NORTHERN DISTRICT AGRICULTURAL SOCIETY.

The Fair of this Society, at Marysville, commenced on the 9th and closed on the 14th of the present month. We were present but one day,—Saturday. It was held under more disadvantageous circumstances than that of any other in the State.

First, The season was too far advanced for a good representation of fruits, and the fact of the State Fair having been previously held, was very much to the disadvantage of this Fair. These things had been fully discussed by the Board of Managers and the citizens, and the decision to hold a fair at all, this season, was far from being in accordance with the unanimous approval of the people. Consequently very many of the citizens of Marysville rather discouraged all preparations for the same, and in no way lent it their aid or assistance.

However, the Board having determined on their course, pursued it with energy and zeal, and are entitled to a great deal of credit for the degree of success which they achieved under the circumstances.

Instead of fitting up the old Pavilion which belongs to the Society, the Board held the fair in the new Turners' Hall, which was large enough and very appropriate. The various kinds of sewing machines were well represented and occupied a very large portion of the space on the floor, through the central portion of the hall. Nickeson, of plow notoriety, made a good exhibition of grapes, pears and apples; also, of wines, brandies, dried fruit, and raisins. J. A. Hall also made an exhibition of some very superior specimens of apples, pears, and good samples of a number of varieties of corn. A fair exhibition of wheat, buckwheat, and vegetables was made by Wm. C. Drumm.

In addition to the above, there were on exhibition saddles and harness, boots and shoes, pianos, fine samples of needle work and a very good display of photographs, pen drawings and specimens of penmanship. H. M. Bernard of Sacramento, with his usual energy and enterprise, showed a number of his buggies and carriages. Hill and Knaugh had their excellent gang plows and some express wagons on exhibition, and J. R. Herman (?) showed a home-made lumber wagon; while Ames & Woolverton of Sac'to., exhibited their Studebaker wagons, for which they were awarded the first premium at the State Fair at Sacramento. The Bain wagon was also shown by Baker and Hamilton.

Exhibition of Stock.

The exhibition of stock was not large, but embraced some of the finest animals in the State. Mr. G. N. Sweezy's herd of Short-horns were there, including the "First Duke of Yuba," for which he carried away the sweepstakes "for the best bull of any age or stock" at the State Fair; also his cow "Beauty," which won the sweepstakes offered by the State Society for "the best cow of any age or stock." Mr. Sweezy is justly proud of his herd of Short-horns. The man who would not be proud of such a herd would not be fit to own them.

Among the horses may be named Atchison's "Tom Atchison," Bogg's "Blackbird," "Mark Twain," and "Gerome," Miller's "May Fly," and other horses known to fame. The exhibition of sheep and swine was principally made by Peter Saxe, of Sacramento.

The Races.

went off well and gave general satisfaction all the week. We were present and saw only those of Saturday. The matched pacing race of that day between Jasper's signal mare "Prussian Maid," three years old, and Findley's signal horse "John," four years old, was one of the best contested and most interesting races we ever witnessed. The horses were both green, never having been trained but little, and the race

was made between a couple of farmers, on Bear river, in Yuba county, each of whom raised the colt entered and backed by him and his friends. The race was for the best three in four, and the mare won the first and fourth heats, and the horse the second, third, and fifth, winning the race and purse. The first heat was made by the mare in the unexpected time of 2:31½, being, we believe, the best time ever made by a three-year-old pacer or trotter on this coast.

If no accident or mishap befalls these young horses, they will figure among the best horses in the country, and while the figures recording their speed will be low down in minutes and seconds, those expressing their value will be high up in dollars.

In this age and country a horse is valued for his speed, and as he decreases his time, in an inverse ratio he increases his value—a single second on a mile adding thousands of dollars to his price. It is this fact that gives to the races at all our fairs such great interest to all classes of the community, and adds so much to the receipts of the societies. Say what you may, the stock and races are the great attractions at our Agricultural fairs, and those managers who would pursue a wise course will recognize this fact, and then by every means in their power, endeavor to work up the other departments of the exhibition, so that they may present features of equal interest and attraction. This course will insure good and successful fairs.

RAPID SPREAD OF FIRE OVER DRY TIMBER GROUND.—It seems almost impossible to many who read of the terrible destruction of life by the late fires in the timber regions of Wisconsin, to realize that there could have been no escape for the sufferers from their terrible fate. The difficulty of escape from such fires, however, will be reasonably realized if we accept as correct the statements with regard to the rapidity with which large fires sometimes travel under favorable circumstances for their spread. We give an item in another column in this issue, from the Grass Valley Union, with regard to a fire in the timber near that town, which is said to have traveled two miles in ten minutes, or a mile in five minutes. The Vallejo Chronicle of the 14th inst. speaks of a fire which broke out in the woods near Berryessa Valley, during the Northern of Thursday last, which traveled 15 miles in two hours, or at the rate of a mile in ten minutes. Escape from such fires or anything like such fires, if spread over any extensive tract, at right angles with the line of approach, would be impossible, with even a fleet horse. The above accounts may be exaggerated, but there is no doubt but that a large fire before a high wind, in dry timber, travels with amazing swiftness, by means of the great cloud of burning cinders which always precedes it.

FROM BANTA'S TO ANTIOCH.—The C. P. R. R. Company have entered in earnest upon building a railroad from Banta's Station to Antioch City. A contract has already been let for grading the first fifty miles of the distance. This road is to run by the way of the Antioch and Martinez to Oakland, over which the company will carry their freight and perhaps passengers also and thus avoid the heavy grade of the Livermore Pass. That portion of it from Martinez to Oakland will answer for the continuation of the California Pacific when the Straits of Carquinez shall be bridged or a ferry used to carry the overland people by the short route direct to Oakland, or it may be to San Francisco when the Bay shall be bridged also—as it will doubtless be in time. The distance from Oakland to Banta's by it is about the same as per Livermore Pass, while it can be run much quicker and operated at far less cost.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING OCT. 10.

IDENTIFYING-STAMP.—George Pardy, San Francisco, Cal.

LUBRICATOR.—Erick Ehlin, San Francisco, Cal.

FRUIT PACKING-BOX.—Elisha D. Lewelling, San Lorenzo, Cal.

MEDICAL COMPOUND FOR SORE THROAT, ETC.—Francis Matilda Moore, Chico, Cal.

FRUIT-BOX.—Charles W. Weston, San Francisco, Cal.

METHOD OF REMOVING SUBMARINE ROCKS. Alexey W. Von Schmidt, San Francisco, Cal.

DRIER.—Charles H. Wakelee, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Cotton Industry in California.

Many of the farmers in California are from the so-called "Cotton States." But few of them, however, have ever undertaken the raising of cotton on an extensive scale. One reason is sufficient to explain this. This industry, at the South, met a very sensible check by the rebellion and its results. The character of labor to be employed in the industry was also quite different. Slave labor ended with the result of the rebellion, and free labor, being rather independent and un-co-operative developed itself at pleasure. The labor of the Chinese in California has been mainly utilized in the mining districts, and in the cities, for domestic aid.

There has been no grand scheme for developing the peculiar resources of the State of California, for the purpose of raising the great cotton staple.

About eight years ago Messrs. Livermore & Chester, associated with Mr. Solomon Jewett, experimented on an extensive scale in the raising of cotton on Kern Island, in Kern county, and with the most gratifying results. So satisfied was Mr. Julius Chester with the results of the experiment that he never lost sight of the value of the cotton enterprise, and upon the organization of the California Cotton Growers' and Manufacturers' Association, in April last, Mr. Chester opened negotiations with that organization having in view the settlement of their industry upon some of his property at Bakersfield, in Kern county. Recently, as we have already stated, the committee appointed to examine the several tracts of land offered by proprietors, with a view to decide the location of the plantation, having visited Kern Island, selected that locality as the best presented, and Messrs. Livermore & Chester will no doubt be gratified, as the pioneer cotton planters of the State, in seeing that industry established upon an extensive scale, on their original plantation. These gentlemen, we understand, sell the Cotton Growers' Association 30,000 acres of very snitable lands for stock in the concern, as we stated at the time of the return of the committee of location some two weeks ago.

FARE REDUCED.—The C. P. R. R. Co. have reduced the fare from San Francisco to Oakland, Brooklyn and Alameda, to 15 cents; excursion tickets both ways, 25 cents. The monthly commutation rates are continued at \$3, which is cheap enough to suit everybody, being in fact lower than street railway fares have been in San Francisco. An immediate increase of travel on the R. R. followed the reduction, and the Chin-du-Wan, the opposition boat on the Creek route to Oakland, has discontinued.

Answers to Queries.

A. E. M. writes as follows: Suppose a gun be charged with 2 ozs. of shot and sufficient powder to give a recoil equal to 80 lbs.; then vent the piece and charge with same quantity of shot, adding enough powder to give the same recoil as before vented; which will give the deepest penetration before or after venting?

Our opinion is that there will be no appreciable difference in the penetration, as far as the vent is concerned, for the reason that it is only put into guns in order to render them more easy to load by permitting the condensed air to escape. Such was the old idea, but no guns are made with vents at the present day, although in some of Westley Richard's guns there is an artificial one which does not pass through the breech as it appears to. As to "adding enough powder to give the same recoil" we would say that the recoil does not depend so much on the amount of powder as on the amount of shot. The reason of this is, that the powder has to overcome the *vis inertiae* of the shot, and the more shot there is, and the tighter it is rammed, the more the gun will "kick," as every sportsman knows.

EDS. PRESS:—Will you inform me in your next what is the cheapest effectual deodorizer and disinfectant for cesspools and privies. A SUBSCRIBER.

Carbolic acid is considered the best article for the purposes indicated. Its disinfectant, or rather antiseptic properties, are very remarkable. Recognized some twenty years ago, and used with marked success during the prevalence of cholera by the Frenchman, Dr. Jules Lemaire, it is only lately that the preventive and curative properties of this powerful agent have been evidenced. It is used for any purpose where it is an object to prevent decay and decomposition. Carbolate of Lime possesses all the disinfectant properties of carbolic acid and is withal in a cheap form, to be used for the purposes indicated. It is put up in pound packages in the shape of a powder, and sells in this city at 25 cents per package. It possesses the power of destroying the germ or septic principle of all disagreeable and contagious emanations.

EDS. PRESS:—Will you be kind enough to inform one of your readers in Montana what a single sash saw will cut in 12 hours (by water or steam power), and what is the most cut of lumber per day. I am told that 5,000 feet can be cut in 12 hours by a sash saw, and by a circular, 10,000 feet. Is this so?

The contingencies connected with these questions render them difficult to answer. The amount of power applied; size of saw; quality of lumber; and efficiency of the sawyer, would all make some difference. A common sash saw will, however, with care, cut 5,000 feet in 12 hours. As to the circular, a lumber dealer in this city informs us that he has a double circular saw that cuts 30,000 feet a day, without doing the "edging." The capacity would depend entirely on the above mentioned conditions.

EXCURSION TO THE TULE.—The steamer Victor, with invited guests, from this city, Sacramento, and elsewhere, started from Sacramento yesterday (Friday) morning, on an excursion trip to visit the Tule lands lying along and contiguous to the Sacramento and San Joaquin rivers, including Grand, Brannan, Sherman, Twitchell, Bouldin, and Venice islands, and the Webb tract. The party will return to this city this (Saturday) evening. The gentlemen engaged in getting up the trip are interested in the development of the tule and swamp lands of this State, and the object of the visit is to inspect the progress of the reclamation work now being done at several of the localities named, and view the ground where further improvements are contemplated. The RURAL PRESS is represented on the excursion, and whatever of genuine interest is to be seen and learned will be noted down for the benefit of our readers.

AGRICULTURAL NOTES.

CALIFORNIA.

A MOUNTAIN "SPUD."—There can be seen at this office, says the *Inyo Independent*, a potato, of the pink-eye persuasion, which weighs nearly two pounds. It was one of a lot of similar ones raised by Mr. Kingsley, of Bishop Creek. If any one will show us one bigger than this, we have the assurance of one that will beat both.

MAMMOTH GRAPES.—Mr. H. C. Jones, who resides in the foot-hills, above Bangor, has left at the office of the *Marysville Appeal*, a bunch of grapes upon which is one grape that measures four and a half inches in circumference. It has precisely the shape of a tomato, and appears to be the result of a number of grapes growing together, although the outward contour is uniform.

PLACER COUNTY.—The agricultural products of Placer county for 1870, says the *Stars and Stripes*, as shown by the statistical tables, compiled for the Surveyor-General, exhibits the growing importance of agricultural resources in that county. There were produced during that year—of wheat 101,802 bushels; of barley 57,400 bushels; of oats 2,590 bushels; of rye 1,457 bushels; of corn 200 bushels; of Irish potatoes 4,071 bushels; sweet potatoes 3,345 bushels; of hay 6,665 tons; of butter 11,390 pounds; of cheese 938 pounds; of wool 151,420 pounds; of honey 7,609 pounds; of wine 178,128 gallons; of brandy 5,496 gallons. The value of the above products foots up about \$275,000. This takes no account of productions from orchards, vineyards and in berry culture, which are more generally prosecuted over a wider extent of territory and constitutes important and profitable industries. The Assessor reports in this line, of grapevines 813,514; of strawberry vines 171,600; raspberry vines 50,536; blackberry vines he does not return, but they doubtless about quintuple the raspberries both in number of vines and quantity of fruit. Of apple trees he returns 55,971; peach 35,864; pear 19,871; plum 11,773; cherry 5,783; nectarine 3,410; quince 2,770; fig 1,998; mulberry 5,868; prune 871; almond 824; walnut 597.

WINE MANUFACTURE IN CALAVERAS.—Few people even among the residents of Mokelumne Hill, says the *Calaveras Chronicle*, of October 14th, have an idea of the extent to which the manufacture of wine is carried in this vicinity. One day this week we stepped into the wine-making establishment of F. Mayer on Center street, and were much surprised at the magnitude of his operations in that line. His cellar is 100 feet by 20, fire-proof, in which from 8 to 10,000 gallons of wine are now stored. The stock on hand is composed of a small portion of the vintage of 1867-'68-'69-'70. Huge casks containing 600 gallons each, are ranged along one side of the cellar, while a rank of well filled pipes, hogsheds and barrels is placed *vis-a-vis*. Mr. Mayer is one of the largest and most successful wine makers in the county, and his manufacture has attained a reputation second to none in the State. He is constantly filling orders from San Francisco, Sacramento and Eastern cities. Mr. Mayer's vineyard contains about 20 acres. The yield from it this season was exceedingly light, and yet he will manufacture 5,000 gallons of wine.

GRAND ISLAND.—This fertile Island near the mouth of the Sacramento river, says the *Folsom Telegraph*, will shortly be surrounded with a substantial levee. Sixteen miles of levee have been completed, leaving 14 miles, upon which work is now being done, to enclose the entire island, which we are informed will be fully completed by December 25th. The soil is the richest in the world, and produces two or three crops of potatoes, vegetables and hay, and the wheat crop realizes 75 bushels to the acre. A gentleman named Poole, on the 23d day of February, planted one acre in Rose potatoes. On the 30th of June he dug 300 sacks worth \$1 per sack. On the 23 of July he replanted the same ground, and on the 7th of October he dug 350 sacks of potatoes. The entire cost of cultivation did not exceed \$30. Thus realizing from one acre of swamp land about \$600. This sounds large, but we are informed it is strictly true.

GRAIN YIELD IN UKIAH VALLEY.—The *Mendocino Press* of Oct. 4th, says: Through the urbanity of Messrs. Faught & Emory, we were allowed to review their account book. We find that this firm has threshed in Ukiah Valley during the season, 23,602 bushels of barley and 3,818 bushels of oats. In addition to this another machine has threshed 10,000 bushels, but

we were unable to learn the exact amount of each kind of grain. From this it appears that Ukiah Valley has produced about 58,000 bushels of grain which is inclusive of a large amount of corn which is not yet harvested. The number of acres harvested amounts, as near as we could ascertain, to be about 1,500. If the information we have received in regard to this be correct, the average yield was a little over 38 bushels to the acre. For a dry season, such as the last has been, we think our farmers have no reason to complain.

SAD OUTLOOK FOR POOR FARMERS.—The *Antioch Ledger*, of October 14th, says: It is a lamentable fact that many of our most worthy and industrious farmers, who have pre-empted, "proved up" and paid for their claims, and who have summer fallowed the land, are unable to procure seed. San Francisco capitalists look suspiciously upon a quarter section of land with a United States patent for title, and substantial improvements as collateral, for a few hundred dollars. Many of our farmers will willingly pay two per cent. per month, for money to purchase seed, rather than be obliged, as many are doing, to give one-third, and in many instances one-half the crop to speculators who seed the land. Unless some provision is made, there will be hundreds of acres of well prepared land lying idle the coming season.

A LARGE CROP WITH LITTLE LABOR.—The *Commercial Herald* gives an account of the recent wheat crop on Twichell's Island. About 500 acres were sown in wheat, which produced an average of 20 sacks to the acre, or 10,000 sacks of 135 pounds of the best quality of wheat. The tulle was burned over, the wheat sown in the ashes, and tramped in by driving a flock of sheep over it. Neither plow nor harrow was used, as we understand. After this crop was harvested, the flood gates were opened, the land irrigated, and a volunteer crop came forward sufficient to make three tons of good hay to the acre, and worth now in the market nearly as much as the wheat crop.

These facts are cited as serving to illustrate the extraordinary productiveness of these reclaimed lands. In this instance a crop was obtained before the land was fairly reclaimed. These 10,000 sacks of wheat taken from 500 acres of land which had only been burned over, were worth in this market not less than \$30,000, without taking account of the hay crop. Of course levees and dykes had been constructed for irrigating purposes. But the first crop more than settles this account, and leaves a handsome balance for future operations.

SAN JOAQUIN—SUFFERING AND WANT AMONG THE FARMERS.—Little grain has been raised in many portions of the San Joaquin Valley during the past two years, says the *San Joaquin Republican*, and in many localities during that period the crops have been a total failure. This has been the result in all that part of the valley lying west of the San Joaquin river from Grayson as far west as Moor's Landing. The farmers there have raised nothing for two seasons. Many of them were poor two years ago. What must be their condition to-day? We have a reliable source that many families on the west side of the river have lived for weeks on ground squirrels, and that such an article as bread has not been seen in their houses for many days. Other families have subsisted on boiled barley. This will sound strange to the people of Stockton, but it is true. The direst want prevails within ten miles of the city. A day or two ago I. M. Hubbard, a Superintendent on the valley railroad, had occasion to pass through the valley on the west side of the river. He stopped at a house near Moor's Landing, and on entering found a woman and several children—one an infant. It was sick, and the mother said she feared it would die, as they had nothing to eat, and she could not give it sustenance. They were destitute. Mr. Hubbard feared the woman would not accept a gift, and so said he had nothing to give, but that he would lend her fifty dollars which she could use to purchase food, and when able repay him. Others in that part of the valley are equally destitute. One man borrowed a wagon with which to go to Livermore, and see if he could not purchase food for his family; he said he could obtain nothing at Ellis because he had nothing to pay. We regret to say he was equally unsuccessful at Livermore. We must do something for these people. They will be no better off until the incoming of next year's crop, and if unaided will suffer incredible hardships during the approaching winter.

NAPA VALLEY—THE VINEYARD BUSINESS. The vintners of Napa Valley, says the *Vallejo Chronicle*, probably never had so favorable a year as the past. The grape crop is

fully one-third larger this season than last year. Thousands of gallons of cooerage have been put up, and several more wine cellars established. In the old cellars enlargement is the order of the day, and still there is demand for more room. The vintners, are paying full prices for grapes, or about \$20 for Mission and \$30 for Foreign per ton. Many extensive vineyards are growing in the lower part of the valley, among which may be noted that of J. J. Seigrist & Bro., 60 acres; Wm. H. Woodward, 80 acres; T. J. DeWoody, 20 acres foreign vines; besides a number of smaller dimensions. In Hot Spring Township, not less than thirty vineyards are cultivated of from 5 to 20 acres, besides a great many planted in young vines not yet in bearing. The names of some the proprietors are as follows: Dr. G. B. Crane, H. A. Pettit, Dr. D. K. Rule, Wm. York, D. Hudson, M. Vaun, C. King, D. Fulton, Sam. Brannan, H. L. Amstutz, Wm. Hudson (deceased), Dr. Davis, Harvey Risley, J. H. McCord, E. Kellogg, Col. Sayward, D. Edwards, Gen. E. D. Keyes, C. D. Smith, J. Llewelling, H. Johnson, J. G. Francis, J. Weinberger, G. Backus, R. Kilburn, Mrs. Perkins. The yield of the vineyards last year was about 400,000 gallons of wine; this season it should reach 560,000 gallons, none probably of which will be made into brandy.

ALPINE HARVEST.—Our farmers, says the *Alpine Chronicle*, are through harvesting. The crops have been good, although one or two have not been as successful as they were last year; others have had heavier crops.

A GREAT TOBACCO PLANT.—Father Acolti, of San José, a few days since exhibited at the *Bulletin* office, in this city, a stalk of Sardinian tobacco which measured 5 feet in height—some of the leaves measuring 2½ feet in length by 18 inches in breadth. The plant grew from the seed which was put in the ground last spring. The Sardinian tobacco is very strong, and is used largely in making snuff. The growth is a most remarkable one.

"A LITTLE MORE CIDER."—John Nuttall of Folsom, will make 1,000 gallons of cider at his ranch, this fall.

SWISS BUTTER MAKERS IN MARIN.—Marin county will ever be a favorite locality for butter and cheese making. It is said that there are now about 600 Swiss in that county, nearly all of whom are engaged in dairying. The great majority of them commenced poor, and on leased land, and nearly every one of them has raised handsome profits. Quite a number have recently purchased land in Santa Cruz county, where they intend to continue their business—land being cheaper there and equally as favorable for the dairy business. There is room in the State for many hundred more of just such men, and the opportunity for such enterprise and industry will continue open until California ceases to import butter and cheese and commences the export of these products.

SOWING WITHOUT PLOWING—BAD PRACTICE.—The *Contra Costa Gazette*, says: Tempted by the loose condition of the soil which had no rain to pack and harden it after sowing last season, many of our farmers are tempted to cultivate and sow the land without plowing or waiting for the rains. Whether as a rule this is a judicious course, there is much question. If the land is clean and the season favorable such experiments may turn out fortunately; but it can hardly be prudent to risk everything on them.

THE COTTON EXPERIMENT.—Favorable reports still come to us from the Merced Cotton experiment of Buckley, Strong & Co. Up to the middle of last week they had picked some 30,000 pounds of cotton in seed, and will get more than a bale to the acre. Col. Strong thinks he is justified by his experience this year in saying, that cotton can be cultivated on the drier lands of this State with a profit. This experiment has been made directly by the side of wheat, and the advantage of profit is immensely in favor of cotton. It would be a great thing for California to have an article worth 20 cents per pound for main export, rather than wheat, worth only two cents. We trust that some from the Gulf States, familiar with cotton, will cultivate a small area of it every in valley county, so as to ascertain whether it will do as well elsewhere as in Merced.

THE POHA BERRY.—We mentioned last month, says the *Alta*, the exhibition at the Mechanics' Fair, of pohā berries, introduced here from the Hawaiian Islands. They are of the same family with the tomato and ground cherry of the Mississippi Valley, and are considered very palatable, both raw and cooked, and besides make a

fine conserve. One species is cultivated along the shores of the Mediterranean. E. I. Hooper, to whom we are indebted for the only information published here about the pohā berry thinks it is probably the same fruit known as the kangaroo apple in Australia. He recommends it to the attention of horticulturists. Those on exhibition were grown by Mr. Chiousse, in Spring Valley, west of Russian Hill in this city. The editor of the *Rural Press* grew this berry in Nevada ten years ago.

OREGON.

RAIN.—The rains to which we alluded last week even continued, and at latest dates the earth was sufficiently wet to give free course to the plow, which is now in active operation turning up the soil in anticipation of large crops and rich rewards for labor during another season.

GRAIN SHIPMENTS, ETC.—Telegraphic advices from Portland of Tuesday last, state that the John L. Stevens left that port on Monday with 5,000 sacks of wheat and 826 qr. sacks flour for San Francisco. The barque Niobe with 8,000 sacks of wheat was to have sailed on Thursday. Flour at Portland on the 17th was firm at \$7.50 for extra. Wheat was active at \$2.30 @ \$2.35 per cental, and oats firm at \$2.35 @ \$2.45 with but a limited supply on hand. According to a late number of the *Oregonian*, the prices demanded by the farmers of that region for oats, caused several consumers to send to California for a supply. A shipment of 500 tons has gone forward. The weather was fine with frosty nights.

THE FLAX CROP.—The *Oregonian* says the flax seed crop of Oregon has been very tight this year, much of it not being worth cutting.

FALL OF WHEAT.—The grainery at the Eugene City Mills, containing 40,000 bushels of wheat, gave way a few days since, letting the wheat down three feet to the ground. The removal of the wheat will be a heavy and expensive job.

THE STATE FAIR AT SALEM.—The 11th annual State Fair was opened at the time appointed, Monday the 9th instant. The total receipts from all sources for the first and second days amounted to about \$7,000. It was estimated that some 10,000 people were in attendance on Monday, and about 15,000 on Tuesday.

The exhibition of horses was not so good as at some former exhibitions; but that of cattle was the best ever seen in Oregon.

The exhibition of agricultural articles and implements was twice as great as ever seen there before. The show of sheep, poultry, etc., was also very superior.

T. Butterfield & Co., of this State, exhibited 15 pure blood and graded Cots-wold sheep and 25 Angora goats.

Messrs. B. E. & C. E. Stewart, of Yamhill county, had 40 head of pure blood and graded Durham and Devon cattle on the ground. Mr. M. Fiske, of Marion county, has 32 head of bulls, cows and heifers of full blood and graded Durham stock. The stables of which there were 119 enclosed, were well filled with horses.

Mr. Wilhoit, of Soda Springs, exhibited a hog which weighed 1,500 pounds, measured eight feet in length and four high.

The show of grains, vegetables, etc., was very fine. The wheat shown is said to have been of a very superior quality, and such as cannot be excelled in size or plumpness. There were also numerous specimens of small seeds shown—of grasses, etc. for the garden.

The horticultural department was well filled, with plants, flowers, etc. The show of fruits was also good.

A fine case of minerals, ores, and precious stones of Oregon was also shown, which attracted much attention.

The annual address was delivered by Col. David Taggart, U. S. A.

BENTON COUNTY.—The *Corvallis Gazette*, Sept. 30th, says: The farmers of this county have all about completed their harvest.

NEHALEM.—The *Republican* learns that there are about forty settlers on the Lower Nehalem, consisting mostly of men without families. On the Upper Nehalem, there are about forty families. Plenty of land can be obtained that is easily cleared, having nothing to clear but small brush and vine maple. Vegetables of all descriptions grow prolific, and fish of different kinds are easily obtained from the waters.

YAM HILL.—The *West Side* says the farmers of Yamhill are out of debt. The advance in the price of wheat has enabled them to settle their liabilities.

A BIG CABBAGE.—The editor of the *Plaindealer* has been presented with a cabbage, very solid, nearly 16 inches in diameter, and weighing 23 pounds, raised by Mr. McKinney of South Umpqua, Douglas county.

HINTS FOR THE FARM.

"High" or "Low" Training.

A gentleman who has had fifteen years' experience in an orchard sends the following for the PACIFIC RURAL PRESS:—

The best of men differ in regard to the proper height of fruit trees, and in expressing an opinion the writer would claim the indulgence of the reader, for he has seen fit to change his opinion more than once and may do so again.

How high shall fruit trees be trained? Some say so high that a horse can walk under them so as to admit of cultivation. If one wishes to raise a crop of vegetables among the trees, high training is of course necessary; it also facilitates cultivation. I know of no other advantage, but see many objections.

1st. The trunk is exposed to the intense heat of the sun, encouraging the attacks of borers.

2d. It is far more labor to gather the fruit from a high than a low tree.

3d. Fruit is injured more in falling from the tree.

4th. The ground is exposed to a greater action of the sun, consequently the moisture is sooner evaporated.

5th. The fallen fruit is more exposed to the action of the sun and hot ground, by means of which it is scorched and rendered unfit for use.

6th. It is probable that the more even temperature near the surface is better for the development of fruit than the unequal temperature at twelve or twenty feet above the ground.

All of these objections are done away with in low training, the disadvantage only being a greater difficulty in cultivating the land, which objection is in great part remedied by the fallen leaves being retained under the tree by the low limbs and acting as a mulch through the summer.

Cultivation of Grapes.

Some years since the writer found some bunches of the common Mission or California grape of extraordinary size, well filled, equal to the Black Hamburg in solidity of flesh and appearance. The bunches were lying directly on the ground. The matter was somewhat mysterious. A few days afterwards I had occasion to sleep in the orchard to keep out unruly stock, and slept on a cot, a couple of feet from the ground. Towards morning the blankets were insufficient to keep up the warmth, but noticing that the ground was still warm, I put the blankets on the ground and was kept warm and comfortable by the heat of the ground.

The reason of the large grapes was thus made apparent. The grapes lying on the ground were kept in a comfortable condition—no congestion of the lungs, no cold extremities, but all night long the circulation went on filling the grapes with rich juices, almost to bursting.

In fifteen years' experience I have invariably found the best grapes near the ground and am a strong believer in low training.

In this country, where there is no rain through the ripening season, no harm can come from the grapes hanging near to or even upon the ground, and no stock should ever be left more than eighteen or twenty inches high.

In cultivating the vines, the plow beam and singletree should pass over the top of the vine, and experience proves that low trained vines may be cultivated at less cost, provided that proper implements are used, than high trained vines. CULTURIST.

KILLING POPLAR AND LOCUST SPROUTS.

V. S. Crosier lately stated in the N. Y. Farmer's Club that he was much troubled to kill poplar sprouts. He had cut them off often, but only to see an increased number spring up. He asked for a remedy. Mr. A. S. Fuller replied as follows: He waits till they are too big. The root gets size, and is hard to kill. The same is true of locust-sprouts. Go over the ground with a scythe in June, and again in July, and a third time in August; frequent cutting at length discourages the root, and it "dies for want of breath." Any wash or salt that would kill the sprout would also destroy the grass in patches and spoil the lawn or pasture.

SUGAR BEETS FOR HOGS.—A writer in the *Practical Farmer* says that he finds the sugar beet very good to fatten his hogs with. He begins with the beets, and finishes off with corn. As the result of his experience, he found that his hogs fattened earlier, with a material saving of corn.

Curing Corn-stalks.

The following in addition to our last report of the Santa Cruz Farmers' Club was received too late to go with our regular report last week; but we deem it of sufficient importance for a separate insertion:

Mr. Locke—"Can corn-stalks be kept here the same way as in the Western States?"

Mr. Woods—"No; our long rains and fogs, followed by warm weather will ruin them. Where they are kept without shelter in the Western States the weather is comparatively dry and cold."

Mr. Mattison—"They might be kept stacked by alternating layers of straw and finally covering with straw."

Mr. Locke—"How, if you have no straw?"

Mr. Woods—"Then use brush."

Members testified to the value of this fodder when seasonably cut and properly cured,—one member stating that at present his stock get nothing but this.

In the *American Agriculturist* for October are some excellent suggestions in regard to the use and value of corn fodder: "If a farmer owns but one horse and cow he can save money by procuring a fodder-cutter, and cutting up and feeding his corn-stalks. They contain, when properly harvested and housed, much nutritious matter, and in our experience we have found no difference in the appearance of our stock or their productive qualities, whether fed on fodder or hay. Cut up, wetted, and sprinkled with meal of corn, oats, or buckwheat, either singly or ground together, with wheat or rye bran in equal proportions with the grain, at the rate of one quart to the bushel of fodder, with a handful of salt, they make a feed capable of keeping stock of all kinds in good, thriving condition throughout the winter. Hogs will eat it readily, and poultry will pick their share. * * * In the present condition of our farms, when we need to increase as much as possible the amount of live-stock kept and fed through the winter, every means of economizing fodder is of value. Here is one most important item of economy; and we can assert from experience that if corn fodder is used in the manner here described, two head of stock may be fed where before only one could be."

VALUE OF ROOT CROPS.—Each succeeding year further convinces Eastern farmers of the value of root crops. Thirty years ago stock was fed almost exclusively upon hay and grain, the only vegetables given them being an occasional mess of potatoes. The present generation of agriculturists have improved upon the crude ideas of their forefathers; they have reduced farming to a science and learned to appreciate the value of carrots, turnips, potatoes and beets as food for their horses and cattle. In this they are following the example of the best farmers and stockraisers of England, France and Germany, who, by the aid of vegetables, are enabled to keep three times the number of head of stock upon a given number of acres that Americans do. Various reasons can be assigned for the necessity of greater cultivation of root crops for feeding purposes. In the first place they are more profitable, one acre producing a greater amount of nutriment in the way of vegetables than in grass or cereals; the crop is snorer, and stock fed upon mixed food of vegetables and grain thrive better and are healthier than if confined exclusively to hay and grain.

EASY FARMING.—The following paragraph is from a late number of the *Chicago Tribune*: The extent to which labor-saving implements have been introduced in agriculture, we saw illustrated a day or two ago in Wisconsin. A farmer was seated on a reaper, with gloves on his hands, and with an umbrella over him, and with as much comfort as if driving a buggy, he was cutting oats, the reaper throwing them into regular and convenient sheaves for binding and stacking. We remember the time when, twenty years ago, we cut oats without an umbrella or gloves, and let the grain lie where it fell from the scythe. Yet, here was a man with a pair of horses, in comparative comfort, doing more in one day than twenty-five men could have done by hand twenty years ago.

HOW TO FEED POTATOES TO COWS.—Many are deterred from feeding potatoes to cows for fear of choking them. A farmer who has had experience in this matter says he feeds them to his cows in the lowest part of his corral, in a low box on the ground, compelling the cow to masticate them before attempting to swallow. He said the plan worked well, as he never had an accident happen.

Notes of Travel in Santa Cruz and Monterey Counties.

BY OUR TRAVELING CORRESPONDENT.

EDS PRESS:—I wish to correct an error either of my making, or of your types. In my letter of Oct. 7th, speaking of the Watsonville branch of the S. P. R. R., the types make it read that it starts at Hollister. It should read that "it starts at a point three miles south of Gilroy, on the road leading to Hollister, but eleven miles distant from the latter-named place." Also in speaking of the new hotel at Watsonville, T. D. Alexander was reported sole proprietor. The proprietorship is Messrs. Billings & Alexander. (see advertisement in this paper.)

Newspapers.

Santa Cruz Co. supports well two county newspapers. The Santa Cruz *Sentinel*, published by Kooser, Littlefield & Co., at Santa Cruz, combines both the advantages and circulation of its own, and of the *Times* that was converged with it some time since. The *Pajaronian*, published by C. O. Cummings at Watsonville, is a live paper; both the above named journals are published in populous towns, and are deserving of success.

Big Pumpkins.

N. J. Kitchen of Watsonville, has this year raised 500 tons of pumpkins, from a 20-acre tract adjoining the town of W., and the largest in size I have had the pleasure to look upon in the State, weighing from 20 to 250 lbs each. Mr. E. Ordish paid \$1,000 for this batch of pumpkins—delivered at his cribs one mile from where they were grown. Last year this same field yielded 800 tons. Mr. Ordish feeds them to his hogs, of which he has the finest lot in this section.

Monterey County

is about 90 miles in length by 40 in breadth; and contains an acreage of 2,300,000, and is estimated to have at least 700,000 acres of good farming lands. The population of this county is about 15,000 souls. Its principle towns are—Monterey, county seat; San Juan, 39 miles north; Salinas City, 20 miles east; Castroville, 16 miles north; Pajaro, 20 miles north; New Republic, 23 miles north-east; Natividad, 29 miles north; San Antonio, 75 miles south-east. There are four Mission establishments. Three great valleys form this county—the Salinas, San Benito, and Pajaro; divided by ranges of mountains. It has also one port—Monterey; one landing—Moss', near Castroville; abundance of fine grazing land, with garden and vineyard spots in the mountain districts; three rivers—Salinas, Pajaro and Carmelo. Mountains and foothills well timbered, plains clear.

The climate near the coast is temperate, and eminently adapted to eastern constitutions. Apples, pears and peaches, thrive in northern portions of the county; grapes and semi-tropical fruits, in southern portions.

The timber is chiefly white and live oak and redwood. First-class marble lime is found in the mountains adjoining the Salinas plains, and there is a whale fishery at Monterey.

Castroville.

This thriving little village of 900 inhabitants, contains two hotels, a fine Odd Fellows' Hall, with 72 members to their Subordinate, and 35 to their Encampment Lodges; and one of the finest Masonic Halls (for a frame structure) in the interior of the State. The F. and A. M. fraternity at this place number 30. The town is also provided with a grist mill, machine shop, fine school house, and a weekly newspaper,—the *Castroville Argus*.

Natividad.

This place, situated 10 miles from San Juan and five from Salinas City, contains about 300 hundred inhabitants, a good hotel, presided over by J. W. Patten, Esq., who is also the owner of a fine ranch of 170 acres adjoining the town, where a race course is laid out, and buildings are about being erected to accommodate the sportsmen of this section; several horses are now training at this track for the fall races.

New Republic.

situated three miles northeast of Salinas City, contains about 100 inhabitants; also two stores, a blacksmith shop and a good country hotel called the Prado hotel, Harvey & Elton, proprietors. It looks like a thriving little village.

Salinas City.

This flourishing young town was started

on March 1st, 1868, by Eugene Sherwood, (on whose rancho, El Sansal, the town site stands), assisted by Wm. Ricker, who owned 80 acres of land (formerly a portion of the Sausal rancho), abutting on that portion of said rancho which Wm. Sherman had for many years previous considered the fittest site for a town which by its geographical position would prove an immense success, and probably the future headquarters of the county. The enterprise proved eminently fortunate. Before the year 1868 had passed away a very flourishing little town existed, where heretofore the open prairie had an uninviting expanse of primeval grass. The founder of the town had succeeded in enlisting the valuable and energetic assistance of the well known Dr. Chas. Ford, a leading merchant of Watsonville, who cast in his fortunes with the young town and established a first-class business house, under the style of Vanderhurst, Sanboin & Co. To the appreciative business tact and enterprise of Mr. Vanderhurst, much of the rapid progress of Salinas City may be fairly attributed. V., S. & Co. opened their establishment in 1868, with a numerously attended ball, and by the commencement of the following year, the population of the town had reached 600 souls. At date of writing, its inhabitants are estimated to number 1,000. The streets of Salinas City are broad and handsomely maintained. The main street is about 600 yards long and (including sidewalks) 87 feet wide—turnpiked—with good sidewalks and well-arranged stores. Salinas City has one first-class country hotel and three of minor importance, several machine shops, bar rooms—apparently in superabundance; variety stores; one first-class tin and stove store kept by D. A. Dwyer & Co., who were among the early pioneers of this city of the plains. A good butcher shop, a brewery in full blast, a telegraph office, express office, two livery stables, a school house, (a fine building,) and a couple of churches. Besides these there is a first-class druggist's establishment and three medical gentlemen fully qualified to dispense the contents thereof. It would be, perhaps, tedious to recapitulate the many other points of interest and evidence of progress; suffice it to say that this young town possesses nearly all the requirements of advanced civilization. The public school is well conducted, employing three teachers of high grade, and educating 160 pupils of both sexes.

The Surrounding Country

is fully capable of maintaining many towns. It is thirty-five miles long by about 12 miles wide; all this immense territory is of unusual fertility and admirably adapted by its level surface, unimpeded by timber, for agricultural uses. South of the Salinas plains, are a couple of valleys of more broken surface, and of similar area. It has been estimated that there are 150,000 acres fit for agriculture.

Principal Ranchos around Salinas City, with their Acreage.

| | |
|-------------------------------------|---------------|
| El Sansal..... | 10,200 acres. |
| El Alisal..... | 5,000 acres. |
| Alisal..... | 3880 acres. |
| Llano de Buena Vista..... | 22,200 acres. |
| Llano Buena Esperanza El Chual..... | 6,000 acres. |
| Los Sanjones..... | 4,000 acres. |
| San Zenobia..... | 26,640 acres. |
| Gaudalupo..... | 8,000 acres. |
| Nacional..... | 22,200 acres. |
| Rincon de los Gatos..... | 16,000 acres. |
| Natividad..... | 8,800 acres. |
| Santa Rita..... | 8,000 acres. |

The number of acres of land under cultivation on the El Sansal Rancho is 7,223; available, 1,271 more.

Salinas City Mill.

This mill is situated in the suburbs of the village; W. Brumwell proprietor; it is run by a steam engine of 45 horse power, has two run of burrs, and has a capacity of making 125 bls. of flour every 24 hours; at this writing \$2.40 is being paid for wheat; for extra \$2.50.

Gabilan Rancho.

This immense ranch contains 49,000 acres, and is one of the most varied in the county, for it contains mountains, valleys, rivers, lagoons, fine timber, and level plains. Jesse D. Carr, Esq. is the happy owner, and J. H. Harris the gentlemanly superintendent; it is situated 26 miles from Monterey and 8 from Salinas City (to where the improvements are). It is stocked with 160 head of horses, 50 head of fine cattle, (8 of which have just been imported from Kentucky,) 800 half-breed Cashmere goats, 9 full-blooded bucks, and 20,000 head of sheep, mostly merinos. Mr. Carr, I understand, obtained the highest figures for fine wool that was paid last year in these parts—33 cents per lb; ten men are regularly employed on this plantation. In my next from the same place something about extensive dairying.

L. P. MC.

USEFUL INFORMATION.

The Egyptian Pyramids.

Many erroneous ideas are prevalent with regard to these wonderful structures, and particularly with regard to the Great Pyramid of Cheops. The latest and most authentic researches fairly disprove the early and still common idea that they are tombs of Egyptian kings. All the known burial places of the ancient kings of that country, are elaborately carved and inscribed with emblems of self-glorification. But it happens that the greatest of all the pyramids, which, if any would have been so inscribed, contains nothing of the kind. Nothing but plain geometrical surfaces are seen, all of exquisite workmanship. The faces of the stones are worked into true mathematical figures, with their edges and surfaces ground to perfect lines, and polished, so that the joints are almost imperceptible, no thicker than a sheet of paper.

The Great Pyramid is thought to be the oldest, as it is the most perfect of all in construction. It is perfect in design and uniform in execution throughout, and is also constructed of uniform quality and character of material from top to bottom. The other pyramids are less perfect in construction, are not built of uniform material, and do not present a uniformity of design. The great pyramid is "founded upon a rock,"—compact limestone—whose surface is about 100 feet above the general level of the valley of the Nile. Deep excavations were made for the foundations. If it had been built in the valley, it would undoubtedly have lost its level long ere this, and perhaps have sunk or been covered well up to its summit. It is supposed by some that the walls of Babylon, which were built upon such a foundation, between settling and the natural accumulation of drift, have been entirely covered up from sight!

The height of some remarkable structures on the earth are as follows: St. Paul's, London, 360 feet; St. Paul's, at Rome, 432; Strasbourg Cathedral, 468; Pyramid of Cheops, variously set down at from 484 feet, 11 inches, to 486 feet, 3 inches. The latter is thus the largest and highest, as well as the oldest and most enduring monument constructed by the hands of men. With 4,000 years' of experience since this structure was completed, the best of men cannot excel it either in design or perfection of workmanship.

WHAT TO DO IF THE CLOTHES TAKE FIRE. Perhaps three persons out of four would rush right up to the burning individual, and begin to paw with their hands without any aim. It is useless to tell the victim to do this or that, or call for water. In fact it is generally best not to say a word, but seize a blanket from a bed, or a cloak, or any woolen fabric—if none is at hand, take any woolen material—hold the corners as far apart as you can, stretch them higher than your head, and running boldly to the person, make a motion of clasping in the arms, just about the shoulders. This instantly smothers the fire and saves the face. The next instant throw the unfortunate person on the floor. This is an additional safety to the face and breath, and any remnant of flame can be put out more leisurely. The next moment immerse the burnt part in sweet oil. Next get some common flour, and put it on the burn, about an inch in thickness, and if possible put the patient to bed. Let the flour remain until it falls off itself, when a beautiful new skin will be found. Unless the burns are deep, no other application is needed. Dry flour for burns is the most admirable remedy ever proposed, and the information ought to be imparted to all. Dredge on the flour until no more will stick, and cover with cotton batting.

TO PREVENT BOILER EXPLOSIONS.—The record of English patents, shows one designed to prevent explosions of steam boilers, which may be worth noticing. The device consists in providing a hole in the upper part of the boiler, and covering the same with a material (India-rubber for example) of sufficient strength to withstand ordinary pressures, but which will give way and allow of the escape of steam under excessive pressure. The India rubber is clamped to the boiler by a flanged tube formed for the purpose.

IMPROVEMENT IN THE LOOM.—An "air-blast loom" has been invented in England, in which the shuttle is driven by means of the sudden release of a very small quantity of compressed air, acting directly upon the shuttle, without any of the complicated machinery required in former contrivances of the kind.

Something about Toads.

The scientific Professor Wood has been studying toads. He concludes not only are they harmless, but they are absolutely and directly useful to us, perambulating our fields and gardens at night, devouring vast quantities of injurious insects which could never be destroyed by the hand of man. The mode in which a toad takes his prey is very curious. The singularly beautiful eye of the toad is as quick as it is bright, and if within range of its vision an insect or a grub should happen to move, the toad is sure to see it and almost sure to catch it. First the toad holds its head as high as possible, so as to make sure of its prey, and then crawls slowly toward it, preferring to get under it if possible. When it is nearly within reach it gazes intently at the insect, its mouth being brought nearer. Something pink then flashes from its mouth and the insect vanishes as if by magic. The pink flash is the tongue of the toad which is formed in a rather curious way. The base of the tongue is fixed close to the front of the lower jaw, and is long and tapering, the tip pointing down the throat when it is at rest. When however it is used for catching prey, it is thrown out with a sort of "flick," and the tip, which is covered with a glutinous secretion, adheres to the insect and conveys it down the toad's throat before the prey has time to make an effort to escape. When the toad swallows its prey it does it with a mighty effort, during which the eyes almost disappear, the size of the insect having little to do with the vehemence of the demonstration. Some times, when a large beetle is swallowed, it does struggle, but too late, and for some time its struggles may be seen through the thin ribbed sides of its capturer; the toad sitting the while in perfect composure, not in the least affected by the scratchings and kicking that are going on in the interior.

MARE'S MILK.—Koumiss, the Tartar drink prepared from mare's milk by fermentation, is recommended by a Polish physician as an excellent remedy in all complaints arising from feeble digestion, in nervous irritation, and in different forms of dyspepsia. He says that other kinds of milk will yield it, though that of mares is preferable. The true Koumiss is a piquant, sweetly acidulous, fragrant liquor, which, when taken in large quantities, produces a pleasurable excitement without any bad after effects. It may be varied as to its constituent elements by proper manipulation so as to suit different constitutions. The patient is restricted to its use as food exclusively, beginning with small quantities, at short intervals, and gradually increasing his allowance until it reaches a gallon daily. On this diet as much as ten pounds of flesh has been known to be gained in a month, the Koumiss containing all the plastic, respiratory and heat-giving elements of the body in a form most easy of assimilation. Here is a chance for some enterprising man to start a new system of treatment. A Koumiss cure would be a novelty, and if at all successful, would make a fortune for its manager.

MODEL RAILWAY MANAGEMENT.—At Kalamazoo station, midway of the Michigan Central Railroad, there sits an operator at all hours of the day and night (relieved of course by shifts,) who receives telegrams from each train on the road the instant it enters or leaves a station, so that he holds or starts it at will. His eye is literally on the entire line, continually making a collision next to an impossibility; and the immense single track quite equivalent, so far as safety is concerned, to the double track roads. As a result of this careful management, not a drop of blood has been shed inside of a car on this road for over 16 years, during which this perfection of arrangement has been in operation.

PLANT GROWTH IN WARM AND COLD CLIMATES.—The active principles of plants, according to recent investigations, are more concentrated in the leaves of plants grown in cold climates, where the vegetation is less vigorous than in warm climates. In illustration the well-known facts are cited that tobacco grown in northern regions is stronger than the same plant raised in mild or tropical regions, and celery, it is stated, is affected in the same way by the influences of temperature and moisture.

A CLOCK IN A PARASOL.—A Detroit jeweler exhibits among other fancy goods in his show window a parasol with a perfect clock in the handle.

GOOD HEALTH.

Medical Electricity.

EDITORS PRESS.—Not far from thirty years since a work was published in which occurs the following language:—Electricity is a subject which has long engaged the minds of philosophers, many of whom have differed very materially in their conclusions respecting it; yet sufficient has been ascertained in regard to it to enable those who are so disposed, to build their structures on practical science, untrammelled by the dogmatic theories and problems of a speculative age." Again, "Electricity we consider the first, the all-powerful principle emanating from the Creator, the power by which all things were made, the grand fiat of Nature, the source of vitality itself!"

This was penned by a philosopher and philanthropist, by whose research thousands of lives have been saved, and who contended that facts and experience should be the only basis from which to act against the enemy of life in any form—that no person had any right to surmise or guess at anything pertaining to the health or life of any one, when that surmising was to be applied to curing disease.

There are in the human organization two distinct systems of nerves, by which it can be seen, with what infinite wisdom nature works; that while one system of nerves is ordained to govern, guide, and regulate the growth, action, motion, strength, sustenance, etc., of the human body, another set has been subsequently constituted as sentinels, to watch, to notify, to give the alarm when danger approaches. Now by, or through, the medium of these two systems of telegraph lines, are brought all the workings of the intricate machinery of life, of growth and decay, of composition and final dissolution. How very necessary then that all and everything pertaining to an element which works through these two systems of nerves, to produce life or death, health or disease, happiness or misery, should be the subject of the clearest, most concise science, capable of being communicated, of being reduced to the utmost simplicity for the general understanding.

The modes usually employed for the application of the electrical current—by taking hold of the two electrodes with the hands, only gives a shock across the shoulders, and is of very little use toward revitalizing any part of the system. The positive electrode should be placed above or nearest the main nervous center, from which the vitality arises that supplies the rest of the system, and the negative below or upon the part necessary to restore. By so doing, this powerful revitalizing agent is made to do a double duty—that of quickening the carrying of sustenance to the diseased part, and the passing away with the return current of the morbid elements present. If judiciously applied, permanent invigoration ensues, unaccompanied by the prostration usually consequent upon tonics or stimulants as ordinarily applied.

San Diego, 1871.

THE SPOON AS A MEASURE IN THE SICK ROOM.—A writer in the Canadian *Pharmaceutical Journal*, who has examined the subject critically, says that teaspoons have been gradually growing larger of late years, the spoon of the last century having been only about two-thirds of the size of that in common use. He adds, however, that three sizes are made at the present time—large, medium, and small, containing 95, 85, and 60 minims respectively. Tablespoons, also have increased, and vary from 4.5 to 6 fluid drachms in capacity. He infers that the dose of certain articles may be unsafe, if a teaspoonful or a tablespoonful be ordered, and proposes to abolish the dessertspoon as a measure, substituting two teaspoonfuls. It is rarely, we apprehend, that more than a drachm is administered as a teaspoonful, or more than half an ounce as a tablespoonful. On the contrary, nine times in ten, according to our experience, an ounce mixture, when ordered in teaspoon doses, will afford more than eight doses, and an eight ounce mixture more than sixteen tablespoonfuls. Nurses seldom fill the spoon to its utmost capacity.

What a Physician's Office Should Be.

Professor McGraw, of the Detroit Medical College, in an address to the last graduating class, raps certain practitioners over the knuckles in the following style: "I have been in doctors' offices where a skull grinned from one corner, ghastly anatomical plates hung from the walls, and splints, suggestive of broken bones, were placed conspicuously in every corner. What a delightful resting-place for a sick woman, visions of death, disease, and injury, greeting her on every side! Now, gentlemen, make your offices, pictures of comfort and cheerfulness. Banish from them every sign of your professional occupation, so that your patients may enter them not only without disgust, but with actual elevation of heart. I think, I need hardly say, that your apartments should be scrupulously clean, although I can recollect too many rooms occupied by physicians, whose windows were festooned with cobwebs and dried flies, and whose floors were stained with tobacco spit. I have been pleased sometimes to hear the occupants of such offices groan about the lack of custom, for if it is the duty of a physician to preach the virtue of cleanliness, he should himself be a living example of his own doctrine. Filthiness in a physician is like dishonesty in a merchant, the very worst of sins." We know of at least one physician in this city who has ever carried out the above idea.

"BOILING OUT" THE STOMACH.—At a late meeting of the Atlanta Academy of Medicine, a member gave an account of his favorite method of emptying the stomach when other means had failed, by taking advantage of the effervescence of acid and alkali. A negro boy *æt.* 14, was insensible from supposed poisoning by stramonium, and it was found impossible to induce emesis by any ordinary process. "An ash-hopper close by suggested the idea for acids and alkalis to *boil out* the supposed poison. With no time to lose, gave a teaspoonful of lye and the little tartaric acid he had, drenched down, followed by another teaspoonful of lye and a little soda—all he could get—and rolled him over a few times, when he boiled out several quarts of half-masticated, raw, red yam-potatoes. The boy remained insensible twenty-four hours longer, deaf the same length of time, and blind for about eight hours, had some fever on reaction, but made good his recovery." A great boy that!

POTATOES IN POULTICES.—Perhaps it is not generally known how much pleasanter and more agreeable, as well as efficacious, is a poultice made of potatoes than one made of bread. It keeps longer, can be reheated several times, and does not wet the clothing. Peel, boil and mash the potatoes; inclose in a muslin bag and apply to the affected part. To boil them in hot water has a very soothing effect, and enhances their virtue. A poultice made of boiled beans is by some, thought to be better than potatoes, but both are worthy of a trial.

EFFICACY OF RE-VACCINATION.—It is stated in the *Edinburgh Medical Journal* that at a recent meeting of the Glasgow Medico-Chirurgical Society, "not one member was able to adduce one single instance of a revaccinated person having taken the small-pox." The sentiment maintained that when small-pox prevails, every individual above five years of age, in an infected locality, ought to be re-vaccinated. We believe this is the universal conviction of impartial medical observers in all parts of the world.

CURE FOR CONSUMPTION.—The following prescription was furnished to the *Lon. Med. Press and Circular*, coming from a clergyman in the West of England, reputed of great skill in diseases of the chest: Isinglass, 1 oz.; eringo root, 1 oz.; garden snails, ½ pint; hartshorn shavings, ½ oz.; three dried vipers from Butler's Convent Garden; 1½ pints water. Boil down to a pint. We suspect it was stolen by the clergyman from Li-po-tai, who was once ardently patronized by a distinguished clergyman of San Francisco.—*Pac. Med. Jour.*

COMPOSITION POWDER.—The justly celebrated "Thompsonian Composition Powder" is composed as follows: Bayberry bark, 6 ounces; hemlock bark, 3 ounces; ginger root, 3 ounces; cayenne pepper, ½ ounce; cloves, ½ ounce. All finely pulverized and well mixed. Dose: half a teaspoonful with a spoonful of sugar. Put in a teacup and pour on it a half a cup full of boiling water. Let it stand a few minutes, then fill up the cup with milk or water and drink freely.



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SAN FRANCISCO:

Saturday, October 21, 1871.

Our Weekly Crop.

Falling in with the general desire for the improvement of Neat Cattle, we have added to our farm stock, this week, a fine animal of "Royal Blood," and known as Prince George of Cambridge, whose portrait we have placed in a conspicuous position. We have also so improved our method of farming that we are enabled to get Three Crops of Potatoes from the Tule Lands.

After a short visit to the Library, we start on a Trip to Montana, visit the farmers of Bitter Root Valley, and call, on our return, upon the River Side Colony Association, where we have many friends, and get a distant view of The Span, with which it is proposed to bridge San Francisco Bay. We next look in upon the Northern District Fair, at Marysville, take a review of The Cotton Industry of California, and answer a few Queries which our friends have propounded. We next make our usual collection of Agricultural Notes, throw out a few Hints for the Farm about High and Low Training, Curing Corn Stalks, Etc.

Notes of Travel in Santa Cruz and Monterey Counties next call for our attention, previous to placing before the readers of the PRESS our weekly Summary of Useful Information and hints about Good Health. This brings us to the consideration of some Remarkable Facts with regard to California Fruits, after which we endeavor to answer some hard questions asked about the Relative Value of Food for Stock.

We next examine Warner's Grape Picker, a new invention for which we have just secured a patent. Near by we find one of California's floral curiosities, known as the Darlingtonia Californica, or California Pitcher Plant, and pass on to pay a flying visit to The Liberal Club of New York, which reminds us of the Home Circle and of our duty Not to Forget the Old Folks, among whom we find several Precocious Children and other Young Folks to whom the good housewife is imparting a few excellent Hints about Cooking, and other things pertaining to the Household, not forgetting a brief moral lesson made up of sundry Life Thoughts, etc.

Turning a short corner, we are told certain facts about Distillation from Fruit, and About the Patent Laws, and listen to an interesting lecture on Self Interest, after which we examine a few Books for the People, previous to reading over the Market and Produce reports for the week.

CALIFORNIA COAL OIL.—Coal oil is being manufactured near San Buenaventura, Santa Barbara County, from crude oil collected near that place. Upwards of 1,000 gallons have already been distilled. The best of oil can be made, according to the *Ventura Signal*, for less money than it can be laid down there from New York.

A COUNTY FARM.—The Supervisors of Santa Clara County have purchased 110 acres of land for a County Farm.

CALIFORNIA FRUIT.—REMARKABLE FACTS.

It has long been observed by all who have taken any interest in such matters that climatic influences produce a great change in the appearance of fruit.

For instance, the most common varieties of pears and apples grown in California can scarcely be recognized as the same fruit described or portrayed by Downing, or other standard authorities. The reason is plain. Downing has taken his description from Nature, and has made a faithful description and true representation of these fruits as they are grown in the Atlantic States. When we transfer them to the Pacific States, even in the same latitude, they change so in appearance that they can hardly be recognized as the same varieties.

Hence the best experts are often mistaken in the nomenclature of fruits on this coast. Hence too, at our State Fairs we may and do frequently find fruits on the tables of different exhibitors, identical in fact, but bearing different names. Hence too it often happens that a dealer in Nevada, Utah or Idaho finds on ordering the same varieties of fruit from different producers or dealers in California, that he actually receives altogether different and distinct varieties, though shipped and billed to him for the same.

Again the qualities of fruit undergo no less change than their appearance, in consequence of change of location and climate. For instance, the Rhode Island Greening, in all the Northern Atlantic States, is one of the best winter apples, while in California it is an early fall apple. All other varieties of apples and pears and other fruit undergo similar changes from location and climate.

These facts were strikingly illustrated by the exhibition of fruits from so many locations and States, at our recent State Fair. Unless one knew the facts he could hardly be made to believe that the pears exhibited by Marshal P. Wilder, of Massachusetts, and those exhibited on our California tables, bearing the same names, were really the same varieties, or had even the same origin.

This exhibition, if properly considered, may explain to the Utah, Nevada, or Idaho dealer why it is that he gets from different producers in California different varieties of fruit under the same name, or the same varieties of fruit under different names.

It may also explain to the California farmer why it is, when he buys his trees from the California nurserymen, they so often bear fruit so entirely different from what he supposed he had purchased. The fact is that while California is one of the best fruit growing countries in the world we have really no true standard by which to compare and test the names and qualities of our fruits. As we have before intimated, Downing, the best American authority for all the Atlantic country, is very poor authority for California.

A Suggestion.

Would it not be well for our State Agricultural Society to inaugurate a system by which this confusion of names and varieties may be remedied? At the annual exhibitions, for instance, the work might be commenced, and by a systematic comparison of the fruits exhibited by different growers from different localities, the clashing of different names for the same varieties, might very soon be remedied. By a careful and correct description of the fruit under the name agreed upon by the growers so assembled, and perhaps by truthful representations in wax, and afterwards by cuts a nomenclature and description of California origin, and true to nature, as seen in California, would thus soon become general and authoritative. We throw out this suggestion, and hope its importance will commend it to the careful consideration of our fruit growers and nurserymen, as well as to our State Agricultural Society.

RELATIVE VALUE OF FOOD FOR STOCK.

EDITORS PRESS:—Please answer the following questions; and perhaps I may, at some future time ask some others equally foolish:

1. How does wheat, oat, or barley straw compare in value with hay, when taken by milch cows, as the larger part of their subsistence?
2. The same when eaten by other stock except work horses?
3. The same for milch cows when cut up and mixed with bran or middlings?
4. How does steamed straw compare in value with hay merely cut and not steamed?
5. Is there sufficient gain in the steaming of oat hay to pay for the fuel and trouble?
6. How long should hay be steamed?

G. R. E.

1.—Careful practical experiments have been made in Europe with the view of determining the comparative value of the various articles used as food for stock, and tables have been prepared therefrom, which, if reliable, would seem to show that the relative sustaining value of the several articles of food for stock, enumerated by our querist, would be about as follows: Taking 10 pounds of good meadow hay as the standard, we should require, to produce the same effect, 52 pounds, each, of barley and wheat straw, and 55 of oat—this, of course, supposes that the grain has been allowed to fully ripen, and has all been separated from the straw.

It may be that the relative value between oat straw and wheat and barley straw, may be different in this climate from what it is in that of England, from the fact that oat straw may not be so thoroughly exhausted of its flesh-forming principles in ripening its seed here, as it is on English soil.

We may also remark that the relative difference between hay and straw is greatly increased, from the fact of the impossibility of the latter being so thoroughly masticated and digested as the former, which is cut and cured in its succulent state, with an imperfectly formed fibre.

2.—There is but little difference to note in the relative value of the articles above named, whether used for producing milk, as implied in the first query, or for fat and muscle as inferred from the latter.

Straw, contrary to what we believe is the general idea, is more productive of fat than flesh—at least, chemical analysis, if not actual experience, so informs us; and as the fatty principles when taken into the stomach of a milch cow go to form milk, we may suppose that straw has a greater relative value as compared with hay, when fed to milch cows, than when fed to working cattle, where the keeping up of the muscle or flesh is the thing desired.

3.—The more thoroughly food is masticated, and its structure broken down, the more readily does the gastric juice operate and prepare it for assimilation as nutriment. When cattle eat green or succulent food the fibre is easily broken and reduced to a pulpy mass. Hay, being cut green, and not having parted with its sugar, starch, etc., to form seed, is much more easily masticated than the dry, woody fibre of straw. The presence of sugar, starch, and the various salts always found in properly prepared hay, also much more readily bring out the secretions from the salivary glands, so promotive of digestion, than does the dried fibre of mere straw, which has ripened its seed. Hence when an animal feeds upon straw the mastication is less perfect than when feeding upon hay; and, as a matter of course, the digestion is also less complete. Now if we cut up the straw, we by just so much aid the animal in the process of mastication; and if we further moisten and mix a little meal or bran with the straw, so cut, we make it still more palatable, and thereby induce a more free secretion of saliva to aid the action of the gastric juice in its digestive

process. Thus, in cutting up straw, we greatly increase its value in reference to hay. What new proportion we establish, we are unable to say; but it is perfectly safe to assert that it is largely in excess over the value of the cost of cutting and the meal employed.

4.—We suppose "steamed straw" cut is referred to in this query. It is difficult to fix the actual increase given to the value of straw so prepared; but that cut straw steamed, is much more nutritious than straw merely cut, is evident from both theory and practice.

We have already intimated that the nearer we can place the food of cattle to the condition of soft, green grass, which nature prepares for them—the more completely is the fibrous nature broken down, and the more readily can the gastric juice be brought to act upon it. The great amount of labor required to reduce a dry, fibrous straw to a perfect pulp may be easily conceived. No animal will do more than to make a mere approximation to such a result. In fact such a result can be practically reached only by subjecting the straw to the steam heat due to a pressure of two or three atmospheres. Such a heat reduces the fibre to such a semi-pulpy condition, that when taken into the stomach, almost every atom of its nutritive matter is appropriated by the animal economy. Practical experiments have shown that the saving in straw or indifferent hay, when so fed, is nearly or quite equal to one-third of the amount used.

5.—There can be no question about the economy of steaming all kinds of dry, fibrous food for stock, whatever may be said of roots, or grain, whole or ground.

We will in a future number endeavor to give some facts with regard to the time required for steaming, as asked in query No. 6, and also furnish some data with regard to the expense of apparatus, etc. The question of feeding stock is one altogether too little considered in this State, and we have for some time been thinking of preparing a series of articles upon this subject. We should prefer, however, first to hear something from some of our friends, who have had practical experience with regard to stall fodder in California, and we shall wait awhile for such information, trusting that some one or more of our readers will have something to communicate, on this matter, which we may make preliminary to what we may have to say ourselves. The lack of natural pastures convenient to the great commercial centres on this coast, and the necessity for home-made fertilizers will soon compel the more general introduction of stall-feeding among California farmers, and the sooner we acquaint ourselves with the economies of such practice, and the earlier we put the same into operation, the better it will be for our fast depreciating lands, and the general advancement of agricultural industry on the Pacific Coast.

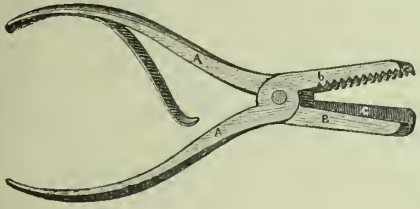
HEALDSBURG is rapidly increasing in population, by immigration and otherwise. The depot grounds of the railroad, for that place, have not yet been selected; but they will be conveniently located near the river, and the buildings will be large and commodious. The bridge for crossing the Russian river at that place is now being built, and the cars will enter the town within six weeks. Work will soon be commenced on the extension to Cloverdale, as well as on the Bloomfield branch. The construction of this road, and the never-failing success of the crops in that region is attracting much attention to the Russian river valley, and as a consequence immigration is setting strongly in that direction, and the price of lands is rapidly advancing.

THE Bee thinks Sacramento should be the depot for the wool-growers.

Warner's Grape Picker.

This useful implement is intended to facilitate the tedious operation of picking grapes. It is made of brass and is very neat in appearance, combining in one instrument a cutting device and holding jaws for seizing the severed twig or stem. It consists in the employment, in combination with the knife, of two pinching jaws, one of which is grooved longitudinally through its central line, while the projecting sides are formed into teeth for the purpose of not only giving greater holding capacity, but also of providing space for the stem or twig to occupy without entirely flattening it when the jaws are closed. These teeth also serve to hold the stem in front of the cutting-blade while it is being cut.

A, A, represent the handles, and B, b, the two jaws of a tool similar to an ordinary hand-punch. Secured by means of screws, to one side of the jaw, B, is a knife or blade, c, which in connection with the edge of the opposite jaw, b, will serve as a pair of shears. In severing the stem, it will be caught by the teeth and prevented from slipping from the lower jaw while it is being cut; and as the jaws close together



it fills the hollow of the teeth, and is pressed into the longitudinal channel, thus giving a firm hold without completely flattening it, as is the case with plain jaws.

This implement is of especial advantage for picking grapes and other heavy bunches of fruit, too large to be held by the tension of a spring. To parties having large vineyards where grapes are used for manufacturing purposes, or for market, this tool is especially useful. It was patented by G. A. Warner, of this city, through the SCIENTIFIC PRESS Agency.

Parties desiring further information concerning this implement, may procure the same from Weister & Co. No. 17 New Montgomery St.

FIRE IN THE NEVADA WOODS.—According to the Grass Valley Union, a man living near the North Star mill, three miles southwesterly from that village, lately built a fire in his field to burn up some logs, when a brisk wind sprang up and drove the flames into a neighboring pine grove, through which, it is said they ran a distance of a mile in about ten minutes. At last accounts the fire was still raging and slowly extending its limits. We notice that our old friend Joseph Clark suffered to a considerable extent, in the loss of fences, etc. Fire is a dangerous element to trifle with in these dry times, and the utmost caution should be observed wherever the least danger exists of kindling it in grass or timber.

VERILY THE WAY OF THE TRANSGRESSOR IS HARD.—This truth was never more emphatically demonstrated than in the case of the State Prison escapes from Carson. No tongue can tell the agony of mind and body which this band of villains has suffered since they made their escape. Hunted like wild beasts from mountain to mountain, they have suffered many deaths from want of water, food and other bodily comforts, to say nothing of their mental sufferings. Death has already come to several—two by the hands of the vigilantes. An actual taking off was no doubt preferable to the living death they had suffered for the previous few weeks. The most inaccessible mountain wilderness has been unable to shield them from the hand of justice. Well may they call upon the mountains and rocks to fall upon and hide them.

DARLINGTONIA CALIFORNICA; OR CALIFORNIA PITCHER PLANT.

We have received from Mr. I. G. Lemmon, of Sierra valley, a beautiful specimen of the above named plant, found recently by a party of amateur botanists at Black Hawk creek, near Quincy, in Sierra county. This specimen appears to present such a marked difference from the plant as heretofore pictured and described, that it is thought to be a new species of the *Darlingtonia*. We give the description of the specimen now on exhibition at our office, No 338 Montgomery street, as prepared by Lemmon, and accompany the same with the engraving which was presented in connection with the description which appeared in the SCIENTIFIC PRESS, September 24, 1870:

"Upon comparison of the flower scapes—not accompanying the specimen, but found

variety it is distinctly pentangular, and a little elevated upon a style. Other differences were noticed, but not structural, yet implying a wide departure from varieties before known.

Among the party visiting the locality, and examining the plant, was Mrs. C. C. Ames, of Indian valley, Plumas county, an excellent botanist, and, by the way, a sweet and sensible writer who would grace your columns, and whose late contribution of flowers to a botanist of Rhode Island was declared to contain a ratio of one-third new flowers in a collection of California specimens.

The *Darlingtonia*—of which this may be a new variety—is a most singular and beautiful plant,—the only one of its order I believe growing on this coast. It is a great study to botanists from its inflated petiole, vaulted and armed internally with stiff hairs pointing downward—the upper



DARLINGTONIA CALIFORNICA; OR, CALIFORNIA PITCHER PLANT.

plentifully at the place of growth—they differ essentially from any illustration seen by the writer.

In the cut given by you in the SCIENTIFIC PRESS of Sept. 24th, 1870, the flower is represented as about 10 or 12 inches high at maturity. In this patch of $\frac{1}{4}$ acre, from which the accompanying specimen was taken, the leaves average 30 inches, and the flowers 40 inches in height.

Newbery's Report of the *Darlingtonia*, which I examined in Prof. Bolander's Library, represents the bracts (or scales) upon the scape, as increasing in number and size, and at length blending with the floral envelop.

In hundreds of the scapes examined upon this point in particular by our party, having the *American Agriculturist* containing an illustration (similar to Newbery's) before us, there was not a scale or a vestige of one found nearer the flower than $2\frac{1}{2}$ inches, and all quite small.

The stigma is represented in all the illustrations referred to, as a circular coronet, sessile upon the pericarp. In this

hooded part of the inflated petiole, or leaf-stalk, secreting a saccharine substance, and the lower portion filled with water—the whole "with intent to deceive,"—being a perfect fly-trap.

To floriculturists it is an object of great solicitude; Woodward's botanist has been unable to grow it, because he can't produce the cold necessary. The florists of Oakland and the University report the same. Dr. Stiver of your city says, it won't bear removal—being like the Orchids. His partner, of the *Horticulturist*, has sent plants to Washington, and South Amboy N. J. and hears that they are flourishing; plants being advertised there for sale.

The writer will keep an eye upon these flowers during next flowering season, as information with regard to the exact construction of the flower seems to be meagre.

Dr. Torrey who names it in honor of "good Dr. Darlington" admits that his specimens were fragmentary, and information meagre.

It seems to have the character of the Hydrangas and Calthas, and if it can be propagated as easily, would prove a never-failing object of interest to lovers of nature.

I have transplanted some roots to a similar locality to their native one, and propose then if they prove healthy, to introduce them wherever desired."

THE LIBERAL CLUB OF NEW YORK CITY.

BY OUR NEW YORK EDITOR.

New York is as prolific of creeds, clubs, religions, and theories as Dame Nature was fabled to be of life, in the olden time. According to the ancients the hot, rich soil in unknown regions beneath a tropical sun, gave birth to all manner of wonderful monsters.

Among the latest products of our mental soil—which to say the least is hot, if not rich—is the "Liberal Club." Perhaps the best idea of what it is, and what its objects are, can be gained from a statement of the elements of which it is composed. Among the members there are scientific men, literary men, believers in the Bible, believers in nothing, doubters, followers of Darwin, men who hold a theory of spontaneous generation plausible, men who think God a sufficient cause for the external world, rare Christians, ripe sinners, scholars, poets, mathematicians, idlers, workers, thinkers who talk, talkers who don't think, and in a word it is a society composed of the best representative men that can be found, or as they think themselves, the cream of New York minds. It must be confessed that when one considers who they are, their opinions seem plausible.

They meet at stated intervals, bringing up subjects for discussion from all departments of human knowledge, and usually managing to provide brain enough to make their meetings valuable, witty, and interesting. Few societies do as much.

Having among its members men of all possible creeds it is generally sure to get views from all possible sides. So it is not uncommon for the theologian to ask questions of the steam engine man; nor does it excite surprise when political economy answers questions propounded by the chemical man. Members, for a wonder, don't seem to confine their interest to their own special hobbies, and if their pet nag don't happen to be showing his paces, may even then show some decided interest in the matter going on.

What the club may come to in years to come, we cannot say; but the members look very wise when the future is mentioned and insinuate great things.

The club was two years old on the 14th of September, and of course celebrated its birthday.

Plympton Hall was the scene of the celebration. On the first floor there was an Art collection. Bought, borrowed, and donated art treasures decorated the room and made a pleasant introduction to the programme up stairs. On the second floor was the "Scientific section," and on the third the "Philosophical and Literary section." The exercises in the sections were somewhat varied. In the first they were mostly short papers on scientific subjects. One poor fellow with a wondrous display of self-esteem, read a long dull paper on Hygiene, which interested nobody. All that was in it sounded so fresh from the text book, that one could almost doubt whether it had passed through his brain at all. The other speakers confined themselves to eight minutes each.

In the Philosophical section there were addresses, recitations, music, poems, etc. Everybody attended these exercises, and all the rest who could not get in went down to hear what the philosophers had to say to each other. After they were through on the upper floor the "Scientific" section had matters all their own way, and had a large audience until midnight. Among the curiosities over which the crowd of ladies were mostly exercised were, a bowl of sugar made from an old napkin, a bottle of syrup from the same, coffee, (imitated) from the same source and sweetened with the sugar. Then there was the famous resurrection flower, which was the subject of a light minute discourse; but we must not try to make a catalogue of them all.

The ladies beamed on everybody, and the learned doctors were delightful, and everybody went home and wished for a long life to the Liberal Club and—a long sleep next morning.

One of the addresses from the Literary and Philosophical sections, will be found entire in another column.



Empty Arms.

God's blessing on the stalwart arms
That hold their labor duty,
And bear the burdens of the hour
With cheerfulness and beauty!

All honor to the willing arms
That lift the poor and lowly,
And teach us by their kindness
A lesson pure and holy!

And raptures for the glowing arms
That clasp, with loving sweetness,
A world of joy and tenderness
In beautiful completeness!

And rest unto the weary arms
That after pining sadness
Twine round our dear returning ones,
And thrill again with gladness!

But sorrow for the longing arms
Where hopes, like birds, have nested:
God's pity for the empty arms
Where darling ones have rested!

DON'T FORGET THE OLD FOLKS.

Let me say a few words to children who have gone out from their old homes, but who have parents still. There is always a liability, when sons and daughters have gone away from the home of their childhood, and formed homes of their own, gradually to lose their own attachments and cease to pay those attentions to their parents which were so easy and natural in the olden time. New associations, new thoughts, new cares, all come in, filling the mind and heart, and, if special pains be not taken, they crowd out the old loves. This ought never to be. You should remember that the change is with you and not with those you left behind. You have everything new, much that is attractive in the present and bright in the future; their hearts cling to the past, they have most in memory. When you went away, you knew not, and will never know till you experience it, what it cost them to give you up, nor what a vacancy you left behind. They have not, if you have, any new loves to take the place of the old. Do not, then, heartlessly deprive them of what you still can give of attention and love.

Visit your parents. If you live in the same place, let your step be, perhaps daily, a familiar one in the old home; if you are miles, yea, many miles away, make it your business to go to them. In this matter do not regard time nor expense; the one is well spent and the other will be fully, yea, a hundred fold repaid. When some day the word reaches you, flashed over the telegraph, that father or mother has gone, you will not think them much, those last hours of travel which bore you to their side.

Write to your parents. I have known father and mother to wait with sick hearts through weary months, longing that some word might reach them from an absent son. They have watched the mails till in despair they have ceased to expect any more, and while they may not have the grief of a great bereavement, they have what is almost as bad, the bitter consciousness that they are not in mind enough even to call out a few poor lines from one whose infancy and early years they watched with sleepless love. Sons are often guilty of this crime—I cannot call it less—from sheer neglect or indolence. While an hour, perhaps a few moments, would suffice to write a letter which would give unspeakable satisfaction, they let months and even years slip away in utter indifference to all the pain they are causing. Oh, how full is many a mother's heart of sorrow and foreboding, when just a few words from an absent son would fill it with joy and praise! Such indifference or neglect is shameful and wicked. One need not wonder that sons guilty of it are not prospered, that they wait in vain for those turns of fortune which will send them home, as they dream, to surprise the old neighborhood with their wealth. Their thoughtlessness has been productive only of disaster.

Keep up your intercourse with father or mother; do not deem it sufficient to write when something important is to be told; do not say, "No news is good news." If it be but a few lines, write them; write, if it be only to send the salutation that says

they are "dear," or the farewell that tells them you are "affectionate" still. The little messengers shall be like caskets of jewels, and the tears that fall fondly over them will be treasures for you. Say with a warm-hearted son—

"The hills may tower, the waves may rise,
And roll between my home and me;
Yet shall my quenchless memories
Turn with undying love to thee!"

In the passing of human life there frequently comes a time when the mutual duties of child and parents are reversed. Advancing years bring a childhood to the one and the care of childhood to the other. To the aged father and mother the days of labor are over; the work of life has been done. Now attentive tenderness becomes the duty of those who once received it all themselves, while those are dependent upon it who once gave it all. Now the parent is the child, and the child is the parent. The watchfulness and care of many years ago is to be repeated over again; only that the giver then is the receiver now. To a true-hearted child here is a return of love which it is good to make. There is a deep satisfaction in being able to repay by words and looks the lavished love of the by-gone time.—*Phrenological Journal.*

TO A YOUNG GIRL.—You think you love the man who is coming this Sunday night to visit you! And he acts as if he loves you! Suppose he "declares himself," and he asks you to become his wife. Are you prepared to say to him, "I love you, and will trust you through life with my happiness, and the lives and weal of our children."

He is jolly, gay, and handsome, and all the darts of Cupid are twinkling and sparkling in his eyes; but will those eyes always find expression from the love of a true soul? To-night he says many pleasant things and draws pretty pictures for the future. Does he go to-morrow to a work which gives promise to the fulfillment of your desire in life? Do his ambitions and achievements satisfy you? Does his everyday life shew with the noble endeavor of a trustworthy man? If you think and desire a companion in your thinking—one who can unlock the deepest depth of your mind, to what strata of humanity does he belong in the scale of excellence and morality? These are questions which the experience of after years make many women weep in the bitterness of soul that they were not thought of before they answered "Yes."

TIMID PEOPLE.—It is the habit of some people to laugh at the terror which is experienced by others at the heavy thunder-crash, or the flashing lightning. This is both cruel and wicked, since the victim is no more to blame for it than for the color of his eyes and hair—in fact, like them, it is often hereditary. Such persons should be pitied and soothed, and allowed during these periods to be always near some one whom they love and confide in. More especially is this true of children, some of whom suffer more than words can tell from this, as well as from other causes of fear. Deal gently with such; it is the only way to eradicate their fears; ridicule and harshness will only confirm them. The child "afraid of the dark," should never be enforced to encounter it unattended and unwatched. Idiocy has often been the result of contrary treatment. Let both parents and teachers, then, be thoughtful in these regards.

EMPLOYMENT OF GIRLS.—A writer in one of our exchanges says: When girls are taught at the mother's knee, at the home fireside, in school, and in society, that it is as disgraceful for them to be loafers as it is for their brothers, we shall have girls demanding and getting that thoroughness of mental and technical training which is needed in the legitimate and successful pursuits of any employment, and not before. We shall have a standard then for scholarship, and women will look upon education as something better than mental ruffles and furbelows, or as a mere means of enabling them to support themselves in genteel independence until they can marry, and we shall hear no more of lack of employment for women.

THE DAYS OF MUD PIES.—Blessed days of bare feet and broken china! We who are big and busy, envy you who mix your mud pies under the hollyhocks. Soon you will quit playing and go to work in earnest. God bless you, and may your mud pies never burn. Play on, and when play-time is over and working time comes, try to keep your hearts as cheerful as they are now, making mud pies under the hollyhocks.

Precocious Children.

Many of the most promising children are sacrificed to a desire to bring them forward in advance of other children, and this desire is stimulated by natural instincts. Every living creature rejoices in the use of the faculties which God has given it. "As a strong man to run a race." The boy whose muscles are well developed will never keep still, but is ready for anything, good or bad, in which he can stir himself. To such a one study is a punishment.

But the boy whose muscles are feeble, and whose brain is largely developed, sits still and reads, and the appetite of course conforms to the kind and amount of exercise. If he wastes his muscles by exercise his appetite will demand the muscle-making nitrates, such as lean meat, beans, cheese, coarse bread, etc., to supply the waste. If he exhausts the phosphorus of the brain by study, he will desire phosphatic food such as lean fish, shell fish, lean meat, etc., to restore it. While the fat and stupid boy, who has neither muscles nor brain, will crave carbonaceous articles such as fine bread, fat meats, butter etc., to feed his stupidity; and indulgence in these appetites will of course increase the peculiarity.

I have seen the plucky kingbird, after an hour of extraordinary exertions in driving from the neighborhood an intruding hawk, devote the next hour to catching bees and hornets, which abound both in nitrates and phosphates, as a means of restoring his muscular and vital energy; while the dormant robin would be content to live on cherries and worms, which contain very little food for either muscle or nerve. The bird is safe in following his inclinations; living as it does according to natural laws, and having no abnormal development of faculties, and no abnormal appetites, it can eat what it desires, and as much with perfect impunity.

But the child, changed in its condition as it may be by the ignorance and folly of its parents, even before its birth, is unnaturally developed, and of course has unnatural appetites.

Indulging these appetites in case of precocity of the brain, increases the excitement of the brain, and the result is inflammation and premature death; and so common is this result, that it is well understood that a precocious child is short-lived. And is it inevitable that the fondest hopes of parents must always be blasted? A child with a precocious brain, or who is very forward, to use the common expression, is of course more liable to dangerous diseases of the brain than other children; but if parents would give the subject thought, and use their reason in this, as in other less important matters, these diseases might generally be warded off.—*Philosophy of Eating.*

WHAT SOME WOMEN DID.—Some years ago, in Winchester, N. H., a parsonage was wanted for the minister. Some of the honorable women of the parish set themselves about securing the desired object. They commenced by brading hats. Occasionally they had a tea party, asking an admission fee. They persevered, until at length a sufficient sum was obtained. They purchased a good house and barn, with an acre of land near the church. They have become an incorporated association. They keep the building insured and in good repair. They have also procured a library for the use of the pastor, and by their kind attentions do much to encourage him and make his labors in their behalf a pleasure.

SENSIBLE.—The High School of Springfield, Ohio, graduated the young ladies of its last class in calico dresses, as pleasing to the eye of taste as to the hand of economy. This was brought about by the thoughtful suggestion of the Superintendent and the hearty acquiescence of the girls themselves, on the only ground on which High Schools can be long perpetuated, namely, that being supported by taxation they must be open to all classes in society and confer their advantages upon the poorest of their pupils, without proscription by fashion or creed, expenses or anything else. The example of the girls of Springfield, might, with much propriety, be imitated by the girls of the San Francisco High School.

DEPENDENCY.—The race of mankind would perish did they cease to aid each other. From the time that the mother binds the child's head, till the moment some assistant wipes the death-damp from the brow of the dying, we cannot exist without mutual help. All, therefore, that need aid, have a right to ask it from their fellow mortals. No one, who holds the power of granting it, can refuse it without guilt.

Young Folks' Column.

ONE DROP OF EVIL.—"I don't see why you won't let me play with Will Hunt," pouted Walter Kirk. "I know he does not always mind his mother, and smokes cigars, and once in a while swears just a little. But I have been brought up better than that; he won't hurt me. I should think you would trust me. I might do him some good."

"Walter," says his mother, "take this glass of pure water, and put just one drop of ink into it."

"O mother! who would have thought one drop would blacken a whole glass so?"

"Yes; it has changed the color of the whole; has it not? It is a shame to do that. Just put a drop of clear water into it, and restore its purity," said Mrs. Kirk.

"Why, mother you are laughing at me. One drop, nor a dozen, nor fifty, won't do that."

"No my son; and therefore I cannot allow one drop of his evil nature to mingle with your purity."—*Little Sower.*

IDLE GIRLS.—It is a painful spectacle in families where the mother is the drudge, to see the daughters, elegantly dressed, reclining at their ease with their drawing, their music, their fancy work and their reading, beguiling themselves of the lapse of hours, days and weeks, and never dreaming of their responsibilities, but as a necessary consequence of neglect of duty, growing weary of their useless lives, laying hold of every newly invented stimulant to rouse their drooping energies, and blaming their fate, when they dare not blame their God, for having placed them where they are. These individuals will often tell you, with an air of affected compassion, (for who can believe it real?) that poor dear mamma is working herself to death; yet no sooner do you propose that they should assist her than they declare she is quite in her element; in short she never would be happy if she only had half as much to do.

DO YOUR DUTY.—One of the principal merchants of Philadelphia once said to a young man he was about to take into his employ, "I shall rely upon your own sense of honor for the manner in which you discharge the duties you are about to assume. I am not in the habit of openly finding fault, unless there is a positive reason for it; but I nevertheless take note of the conduct of the young men in my employ, and at the end of the year make up my account. If in the renewing of a contract with any of my employees, they find that they have not been promoted, I desire them to bear the fact in mind, that they have not merited promotion by their conduct. Our interests are mutual. If an employee seeks by industry, politeness to customers and general attention to duty, to promote my business prosperity, I would be singularly remiss in duty to myself did I not recognize the effort, and show my appreciation of it by promoting him to the full extent of his merits."

A NOBLE BOY.—A lad of 13 years of age, was drowned on Tuesday night in the neighborhood of Wick, under peculiar circumstances. In company with six other small boys he went to sea in a small boat from the shore of Forse to catch small fish. The boat was too small, and all the boys having suddenly gone to one side she was upset, and the lads were thrown into the sea at a small distance from the shore. The boy being a good swimmer, set himself to save those of his companions who could not swim, and succeeded in getting all on shore but one. While swimming towards him the poor lad became exhausted, and sank to rise no more, while his drowning companion was got safe to land. The name of the unfortunate little hero is Southerland, son of Alexander Southerland, fisherman.—*London Standard.*

A MAMMA in the rural districts lately gave her five-year-old hopeful an outfit of fishing-tackle. Soon she heard a shout from Willie, and running out found one of her best hens fast winding up the line in her crop, whither the hook had already preceded it. Willie, observing the troubled look of his mother, quietly remark, "Don't worry, mother, I guess she will stop when she gets to the pole."

"WHY is it," said a teacher to a scapegrace, who had caused her much trouble by bad conduct, "you behaved so well when you first came to school, and are so disobedient now?" "Because," said young hopeful, looking up into the teacher's face, "I wasn't much acquainted then."

DOMESTIC ECONOMY.

Hints About Cooking.

(For the Press—By a Lady Contributor.)

There are many women who are called upon to do cooking, to whom it is hard and disagreeable work. They have not been taught *how* to do it, and go to work blindly, with a desperate feeling, thinking that if they have "good luck" it will come out all right, if not, they "cannot help it." To such persons we offer the following practical hints:

There are but few cook-books that do not confuse inexperienced cooks with a multitude of receipts, and neglect of small, but important details.

That cooking for a large family is hard work, no one will deny who has tried it for any considerable length of time; but to regard good cooking as the result of *chance* is a great mistake,—an error to which we are indebted for much of the unwholesome food that is set before us. By strictly following certain rules, and being exact in quantities, we may be almost sure of success. Cooking is hard work; but by care and attention it may become interesting work, and skill and judgment may be acquired.

How to do It—The Fire.

In the first place, your kitchen or whatever room you cook in, your pots, pans, and all utensils should be kept in perfect order. If you have not been in the habit of keeping them so, begin at once, and see how much it lightens labor. Secondly; and this is an important consideration, you must know how to manage your fire. An ordinary cooking stove may be mastered with ease. Understand all the dampers, so that you may regulate the draught; find where the soot and ashes collect, and remove them frequently.

These seem insignificant details, but we have known stoves to be condemned as "poor bakers," by those who ought to have known better, from a neglect of these simple rules.

Have your fuel convenient, and regulate the heat according to what you have to cook. Of course we cannot lay down rules for this; but we would say that a *fiery* fire is not necessary. It wastes fuel, and spoils almost everything.

For baking bread and roasting meat a considerable amount of heat is required; while soup, hominy and many other things, must be cooked gently, for three or four hours over a slow fire. By exercising a little patience you will soon learn how to regulate your fire, and save fuel.

Variety in Food.

As many of our readers are in the country, we will first make a few suggestions to them.

That we should have variety in our food is necessary for health as well as enjoyment. We know that it is difficult to attain this, when far from city markets, without some forethought; but by a judicious use of fresh eggs, butter, milk and cream, with now and then a chicken, every farmer's wife may keep her family supplied with good, nourishing food.

It is desirable to have fresh meat once a day if possible; but its place may in a great measure be supplied by various grains. Many sensible people are adopting the Scotch fashion of using oat meal pudding, because they find it to be pleasant and nourishing food.

Oat Meal—How to Cook It.

Two cups of oat meal, three cups of cold water, salt to taste, and boil gently for two or three hours. It must be stirred frequently, and more water added if necessary to keep it soft. Cracked wheat, hominy or corn meal may be cooked in the same way, and furnish a pleasant variety.

If you have plenty of milk it will be an improvement to add a little a few moments before taking up. These dishes are nice hot or cold, and may be served with milk, syrup, or as a vegetable with meat.

Eggs

may be cooked in a thousand ways, our French neighbors tell us. We will not try them all, but are sure every one will like them cooked in the following manner:

Take an ordinary plate that will bear heating. Place on it a piece of butter the size of an egg and melt it. Break six eggs into the melted butter, carefully, so as not to break the yolk. On each egg sprinkle a little salt, pepper and grate a very little nutmeg. Set over a slow fire, do not cook too hard; serve hot, on the plate on which they are cooked.

Cheese as Food.

Good cheese is very nutritious, even more so than eggs. Cheese varies wonderfully in its composition, but when properly made it contains about one-third water, one-third albuminous material, one-fourth fat, and about five per cent. of mineral matter. One-half of a pound of good cheese contains as much nitrogenous matter as a pound of the best meat, and one-third of a pound as much fat as a pound of average meat. Old cheese, however, is not wholesome, and can not be eaten in large enough quantities to be useful as a food. Very new cheese, on the other hand, is less easy of digestion.

Cheese is difficult to keep in warm climates, and easily decays in all places unless properly cared for. Mouldy and decayed cheese is unwholesome and can always be told by the taste. American cheese is not so good as English and Swiss; still the best American cheese is very good. The English working classes use bread and cheese very largely as an article of diet. The Americans use it as a relish and luxury, but rarely as an article of nourishment. We believe Americans use too much meat. Those who wish for a substitute will find it in good eggs and cheese. With these foods they need rarely or never use meat at all.—*Herald of Health.*

FLAKY AND SHORT CRUSTS.—In making a flaky crust, a part of the fat should be worked with the hand to a cream, and then the whole of the flour well rubbed into it, before any water or milk be added. The remaining fat must be stuck on the paste, and be rolled out. For crisp crust, by far the most wholesome, the whole of the fat should be rubbed in thoroughly, incorporated with the flour. Water or milk must be added when this is done, and the dough, or rather paste, made up. The pie-board and rolling-pin should be well dusted with flour, and the dough should be well beaten with the pin, to thoroughly mix it and render it light. Mind, in rolling out paste, do not drive the pin backward and forward, but always keep rolling from you. In making flaky crusts, the paste must be rolled out thin, and the fat or butter laid all over it; then roll it up and beat it till it puffs up in little bladders; it should be then finally rolled out, and put in the oven as quickly as possible.

ICING PASTRY.—When nearly baked enough, take the pastry out of the oven, and sift fine powdered sugar over it. Replace in the oven, and hold over it, till the sugar is melted, a hot iron shovel. The above method is preferred for pastry to be eaten hot; for cold, beat up the whites of two eggs well, wash over the top of the pies with a brush, and sit over this a good coating of sugar; cause it to adhere to the egg and pie-crust; trundle over it a clean brush, dipped in water, till the sugar is all moistened. Bake again for about ten minutes.

EAST INDIA PICKLE.—Chop cabbage fine, leaving out the stalks, together with three or four onions, a root of horse-radish and a couple of green peppers to each cabbage. Soak the whole in salt and water for three or four days. Spice some vinegar with very strong mace, cloves, allspice and cinnamon. Heat it scalding hot. Add alum and salt, and turn it on the chopped pickles, which should previously have all the brine drained from them. In the course of three or four weeks the pickles will be fit for use.

HOW TO EAT CORN.—The operation of eating corn from the cob is much facilitated by drawing a sharp knife lengthwise of each row, in such a manner that the hull of each kernel will be split. When this is done the digestible nutritious contents of the kernels will slip out and the often tough hull be left upon the cob. Those whose teeth are sensitive or defective will find this a great help.

TO KEEP FRUIT.—The *Journal of Chemistry* has the following: Beat together equal measures of honey and spring water in an earthen vessel; put in your apricots, plums and peaches, freshly gathered; cover closely, and they will keep fresh for a year. When taken out for use they must be rinsed in cold water.

Domestic Receipts.

PUMPKIN PRESERVES.—Cut a nice ripe pumpkin into pieces a third of an inch thick, paring them. Take equal weight in white sugar. Allow the juice of one lemon to a pound of pumpkin. Let the pumpkin remain in a pan with the sugar and juice all night. In the morning put into a preserving kettle, cooking till perfectly clear. Be sure to skim well. Then add lemon peel cut in pieces small as marbles. Take out and strain the syrup through a jelly-bag, and pour over the pumpkin.

QUINCES DONE IN MOLASSES.—Pare and quarter them, boiling the skins and cores in new cider, and straining them. To five pounds of quince use one of brown sugar, one quart of molasses, and the cider in which you boiled the skins. Add the whites of two eggs, and clarify. When cool, add the quinces, and boil till tender, adding more cider if necessary. Spice with orange peel or ginger root.

TO KEEP EGGS.—Among the various methods proposed, none perhaps is better than the following:—Fill a kettle with water, and let it boil. Then fill a corn popper or something similar, with eggs, and immerse them in the water, now holding them in more than a second. Pack them in bran or paper rags, little end down, and they will be good when hens lay in the Spring. I have tried it three seasons, and never failed in laying down fresh eggs.

GREEN TOMATO PICKLE.—One peck of green tomatoes, one dozen onions. Slice and put in layers, with salt sprinkled over them, and let them stand until the next day, and then drain off the liquid. One box of mustard (two gills), one and a half ounces of ground black pepper, one ounce of whole cloves, one ounce of yellow mustard seed, one ounce of allspice. Put the pickle in a kettle in layers with the spice and add vinegar enough to cover up all, first wetting the mustard, and let the whole boil twenty minutes. The same recipe is excellent made with half tomatoes and half green peppers, and when done and perfectly cold, one gill of olive oil.

FRIED BREAD.—Put into a common biscuit pan a heaping teaspoonful of butter, and let it melt and spread over the pan; then take enough slices of bread (stale answer as well as any) to cover the bottom of the pan, and make a mixture to dip them in by beating well with two eggs, and pouring in milk enough to soak the bread, season it with a little pepper and salt; make the bread quite moist; then lay it on the butter and fry brown one side, and if too soft to turn, put it into the oven to brown on the top, and you will have a dish that serves for meat and potatoes, consisting of neither.

Mechanical Hints.

HOW TO SELECT HINGES.—The following simple method of selecting right from left-handed, loose jointed butts or hinges, may be useful to many, as it has often saved considerable trouble and annoyance in sending inexperienced persons to the stores for such articles: Take up the closed hinge from the counter and open it from you, holding it in both hands; if you wish for right-handed ones hold fast with the right hand, letting go with the left. If the hinge remain intact it is right-handed, but if it fall to pieces, or apart, it is left-handed. Holding fast with the left and letting go with the right, will prove which is which, by a similar test. I have seen many a score of people puzzled to tell one hinge from another, until I showed them the above simple plan, when it was a mystery no longer.

RUST.—Sometimes rust can be removed from polished iron or steel with little difficulty; but sometimes it cannot be made to disappear without polishing the surface anew. Rust is oxide of iron. The oxygen of the atmosphere unites with the iron chemically, thus forming a thin scale on the surface, not one-thousandth part of an inch in thickness. Red rust may be formed on the polished surface a thousand times without materially corroding the metal, provided it be removed soon after it has formed. The usual manner of removing red rust is to cover the rusty portion with common olive oil, and rub it in well with a woolen cloth. After it has stood a few hours, rub the parts with finely pulverized slacked lime, or Spanish whiting, until the rust is all removed. If red rust is allowed to accumulate until the polished surface is corroded, sweet oil and a severe rubbing will seldom remove it. The entire surface must be re-polished with emery, or some other grit, before black rust will disappear from polished steel or any other metal.

LIFE THOUGHTS.

GIVE work rather than alms to the poor. The former drives out indolence, the latter industry.

POETRY is the flower of thought; sarcasm the needle; wit, the honey; and punning the small beer.

DESPISE not little sins, that have ruined many a soul. Despise not the little duties; they have been to many good discipline.

WE should watch over the interests of others as well as our own, and be careful to act on every occasion, with uprightness and fidelity.

BE not stingy of kind words and pleasing acts, for such are fragrant gifts, whose perfume will gladden the heart and sweeten the life of all who hear or receive them.

DOES a man speak foolishly? Suffer him gladly, for you are wise. Does he speak erroneously? Stop such a man's mouth with sound words that cannot be gained. Does he speak truly? Rejoice in the truth.

MEMORY presides over the past; action presides over the present. The first is a rich temple hung with glorious trophies and lined with tombs; the other has no shrine but duty, and it walks the earth like a spirit.

THE same vanity which leads us to assign our misfortune or conduct to others, prompts us to attribute all lucky chances to our own talent, prudence and forethought.

IF you want to find out a man's real disposition, take him when he is wet and hungry. If he is amiable then, dry him and fill him up, and you've got the greatest wonder of the century.

A Good man who has seen much of the world and is not tired of it says: "The grand essentials to happiness are something to do, something to love, and something to hope for."

EDUCATION is a better safe guard of liberty than a standing army. If we retrench the wages of the school-master, we must raise those of the recruiting sergeant.—*Everett.*

Who is Old.

A wise man will never rust out. As long as he can move or breathe he will be doing for himself, for his neighbor, or for posterity. Almost to the last hour of his life, Washington was at work, so were Young and Howard and Newton. The vigor of their lives never decayed. No rust marred their spirits. It is a foolish idea to suppose that we must lie down and die because we are old. Who is old? Not the man of energy, not the day laborer in science, art or benevolence; but he only who suffers his energies to waste away and the springs of life to become motionless; on whose hands the hours drag heavily, and to whom all things wear the garb of gloom. Is he old, should not be asked; but is he active?—can he breathe freely and move with agility? There are scores of gray-headed men we should prefer, in any important enterprise to those young men who fear and tremble at approaching shadows, and turn pale at a lion in their path, at a harsh word or a frown.

FORMATION OF CHARACTER.—Have you noticed an icicle how it froze one drop at a time, until it was a foot long or more. If the water was muddy, the icicle looked foul and its beauty was spoiled. Just so our characters are forming. One little thought or feeling at a time adds influence. If thought be pure and right, the soul will be lovely, and will sparkle with happiness, but if impure and wrong, there will be final deformity and wretchedness.

SECRET SORROWS.—In the lives of the saddest of us there are bright days when we feel as if we could take the great world in our arms. Then come gloomy hours, when the fire will not burn on our hearths, and all without and within is dismal, cold and dark. Believe me every heart has its secret sorrows, which the world knows not of, and oftentimes we call a man a cold man, when he is only sad.—*Longfellow.*

BLESSED is the man who never runs in debt. Better decay yourself than to meet a man who looks at you every time he meets you with a countenance that says "Pay me what you owe me, sir." He is a happy man who can face the world and say "I owe you not a cent."

LET us never meddle with strife, if we can help it, and let us have as little to do as we can with the angry and furious, but let us always stand by the right, and let our silence, if not words, rebuke all wrong-doers.

Distillation from Fruit.

Should the expected action of the Revenue Department be favorable for the encouragement of distillation from fruit, that business will soon create a largely increased demand for grapes over that now existing. On account of the many complaints which have been made to the Department by fruit dealers in this State who are grievously opposed by the unequal barriers imposed upon them, a gentleman was recently sent to California to inquire into the workings of the tax law here in regard to distillation from fruit. That gentleman has completed his examinations and enquiries here and returned to Washington, and the probabilities are that the department will consider the matter favorably.

The present revenue regulations place grape distillations in the list of special taxation, without any distinguishing features from that of grain distillations. This course is greatly retarding the growth of the vine interest, and the Government is beginning to see it. When the proposed general modification of the Revenue laws is made, it is expected that a special enactment will be made in favor of our vinters.

The New Sacramento Distillery

which is producing brandy from grapes under the Johnson patent, will probably consume 1,000 tons of grapes this year. Very favorable reports of it are given by those who have examined it, and the brandy made by the process is certainly good. If all that is claimed for the process is true it will be of great value to the grape interest of the State. We understand that this still has just gone into operation, and we shall endeavor to make more special reference to it in a future issue.

What Gen. Naglee is Doing.

It is well known to our readers that Gen. Naglee of San José, is largely engaged in this business, the chief object of which is to make a practical demonstration of the fact that a brandy can be manufactured in California which will excel in purity and bouquet the most noted vintages of Europe. It is claimed that he has fully succeeded in his enterprise, and he has now in store about 25,000 gallons of as choice brandy as can be found in the world, over and above his loss of 10,000 gallons by fire.

His distillation for the present year will reach about 15,000 gallons, which will require the consumption of about 500 tons of grapes. The General will not place a gallon in the market until it has attained an age of five years. Each year's vintage is stored by itself, and as this is the third year of his vintage, it will be two years more before the quality of his liquors will be known beyond the circle of his immediate friends. The quality of his brandy thus far meets his utmost expectations, and all exports who have inspected it pronounce it equal to the best imported of the same age. This result is ensured from the skill and care in the manufacture, and in the selection and classification of his grapes. Each kind is carefully selected, and the distillation carried on separately. No two kinds are allowed to become mixed; and when the product is brought out, it is said, by experts, that all the distinguishing features of the fruit can be readily recognized in the liquor as in the grape itself.

LOSS OF GRAIN AT CHICAGO.—The loss of grain at the Chicago fire was 1,600,000 bushels out of 6,600,000 bushels in store there. The fire will not interfere materially with the regular grain business of that city.

BARN BURNED.—A barn belonging to Mr. Dow Hake, near Bodega, was burned on the 12th inst. Loss \$2,000; insured for \$900.

About Patent Laws.

While the United States can boast of having the most liberal laws, with reference to patents in the world, England, on the other hand, must be credited with imposing the heaviest taxation, and the most burdensome regulations upon inventors, and this in the face of the rapid strides which the United States has made during the past 50 years; a fact which can mainly be attributed to the facility with which patents for inventions are granted, and the nominal fees required of inventors. In England the Patent Office is used as a means of increasing the Government revenue, while in the United States the fees and receipts of the office are only used to sustain the Patent Office Department.

The English system is unjust to inventors and damaging to the interests of that country, and we are glad to note that some of her influential citizens are beginning to see the folly of the system, and are agitating a reform. They propose to copy after the United States law. They propose to reduce the present enormous fees which now amount to \$850 for a fourteen years' patent, to a more moderate and reasonable sum, and to apply the proceeds for the same purpose that it is used in the United States.

When once England shall have accomplished this reform, all of her colonies will undoubtedly follow suit, so that thereafter the inventor who shall produce a valuable invention will be able to secure himself, at a reasonable expense, in all of the principal countries in the world.

The present exorbitant fees in England, amount to nothing short of a prohibition to ninety-nine out of every one hundred inventors. It not only discourages home inventors, but bars out foreign inventions and improvements. The lowest fees recommended by the reformers, it is more than likely, would produce a greater revenue to the British Government, than they derive from the present oppressive taxation, even should only one-fourth of the American inventors extend their applications to that country. We believe that a much larger proportion would eventually seek patents in England.

It is seldom that foreign inventors take out British patents under the present system, consequently the number of patents is not so great as with us. Englishmen are compelled to pay higher prices for the patents which they purchase from the fact that they do not have a large number to choose from as is the case in the United States.

British patents, consisting of two immense parchments, and the Great Seal of the Crown, composed of some two pounds of ordinary yellow beeswax, on which our inventors pay \$5 expressage, is an amusing affair to Americans, who do not care to be loaded down with such extraordinary documents and ornamental (?) appendages. Compared with our American patent of letter sheet size, it is a monstrosity.

The blue pamphlets which contain printed copies of English specifications, and which are furnished at a six-pence each, including postage, is a more convenient and useful document.

SELF INTEREST.

BY WM. M. ORMSBY.

[Read before the Liberal Club of New York City, at its 2d Anniversary.]

Scientifically considered, the speeches here to-night are mainly the exhalations of the lungs—carbonic acid gas—a deadly poison. How beautiful is Nature thus to give us so much delight through the waste of respiration a mere excretion of the system.

In like manner is human selfishness, that hateful, ugly, fearful thing, made to do duty as the preserver of the species, the mainspring of mental, moral and physical

progress. In spite of himself, the most selfish man must work for his species when he works for himself. Is he a miser? His accumulated store must ultimately do duty for the use of others.

Is he an artist? His beautiful work is equally the property of his fellow men. Is he a speculator in food? His greed will save the scanty store from waste that it may be hived for the days of famine. Is he a merchant? His ships must sail to distant lands to bring their rare and costly products for the use of his less wealthy neighbors. Is he a writer? His brain-work must contribute to the amusement or culture of the unlettered or ignorant.

In every direction that human selfishness extends, it must include more than one in its results—though not perhaps in its motive.

How all potent, far-reaching, untiring, sleeplessly vigilant, is selfishness! Shall we be chided then for seeking to enlighten it, and to recognize in it the most powerful agent for human improvement. It is not a question whether it is degrading for men to be moved by self interest? Is it a fact?

Science is not ashamed to say that man has descended from a monkey! Need it shrink from the acknowledgment that the motive for man's noblest actions is his own gratification? Is our generosity less good because we take our pay in the pleasure of it?

But, says Universalogy, "what is the use of thus constantly reminding us of the ignoble origin of our noblest deeds? Our food was once the muck heap. Why tell us of it!" For this reason; that some men are constantly telling you that it was not a muck heap, and that the best fertilizers are fragrant essences. The point is not whether it is agreeable to hear it—is it true?

But again, says Pseudo-Positivism, what is a name? You have stolen our "Altruism" and called it "Enlightened Self Interest."

There is this in a name—that Positivism makes virtue a self denial and leaves you to infer that in order to do right you must make yourself miserable. The Book was nearer right when it said: "It is better to give than to receive." Men give because they think it is better, and take their pay in self satisfaction.

What need we care for the sneering taunts of those who say we are constantly "grinding axes in the Liberal Club;" where don't they grind axes? Do our open doors harm anybody? Is our unequalled elocution less pleasing because it is an advertisement?

Surely not, for you are all always glad to hear it. Is our scientific exposition less valuable because it comes from professional instructors? Are our medical lectures less instructive because they are delivered by a physician in growing practice? Is our altruism less advantageous because its advocate is the prospective high priest of positivism? Is our phonetic reform of less value because its champion is the author of the complete phonographer? Shall we cease the advocacy of protection because the American copper interests are to be benefitted thereby? Are our addresses on longevity of less account because their author happens to be President of an insurance company? Is our universalogy less a great discovery because its prophet publishes a book?

Is our political economy less instructive because it is expounded by enthusiasts who have made it a life study? Is our exposition of the Industrial Exhibition less interesting because somebody may make money by it? Is our scheme for the preservation of wood less valuable because it may be a source of profit? Is our enlightened self-interest less a great system of ethics because he who preaches it is a conceited spouter? If we were all monomaniacs the world would get some benefit from our hobbies.

Ponder these things, and judge men's actions by the results and not the expected results. You will then see that people may intend to be charitable and generous, and lofty, and high-minded; while in fact they may be doing the silliest and most hateful things to society; while another may intend to be selfish and only succeed in benefitting others.

Now please don't represent me as saying that all the generous people are bad, and all the selfish people good.

What I do say, is that self-interest is a pent-up human impetus. I believe that the greater part, and that the system of nature is wisely so ordained that upon the

whole this self-interest is a benefit to the race, because it is not all blind and ignorant; but is all the time growing more far-seeing and good—sacrificing present pleasure for future and more permanent pleasure, and growing more and more conscious that the rights, duties, and interests of no one can conflict with the legitimate rights, duties, and interests of any other one. We may all then look out for the high No. 1 as well as the low No. 1; the mental and moral as well the physical No. 1. Let every one really look out for No. 1 and we shall have a perfect humanity.

Books for the People.

How to GET RICH.—A Pamphlet by Uncle Ben. 28 pages. C. M. Cornwell, 247 Pearl St., New York.

This little pamphlet was written for the express purpose of showing beginners in life the one way by which they may become rich. We say the one way, because it is the only way which is open to all and in which there is no necessity for failure. In ordinary business pursuits all men cannot succeed. There are always some lacking in ability; some who never seem to rise. In other occupations the general opinion is that the third or fourth rate man must be content to remain poor. Nobody expects laborers to become rich or even to accumulate a competency for old age. But "Uncle Ben," in this pamphlet, shows how every one who has common sense enough to earn a living, may in time, by properly employing the saving banks, gain sufficient wealth to at least furnish a comfortable income for old age.

In proof of the correctness of his views, and to show how easily the thing may be done, he points to his own case. Fifteen years since without a penny in the world he began to make his way in New York with a modest salary. From the beginning he began to make a weekly deposit in the savings bank, and now his income from the money so deposited is greater than the salary he received when he first came to the city. The figures which he presents are startling, showing as they do how perfectly simple it is to obtain enough to satisfy any man of reasonable desires.

For instance, if between the ages of 20 and 60, a man puts a dollar per week into the savings bank, he will at the end of that time have \$8,413.12, which invested at seven per cent. would give about \$50 per month. In California banks, amounts would be nearly doubled, as the above figures are calculated for six per cent only.

If this little pamphlet would be circulated all over the country it would be of immense value to all classes. Could our boys be taught the proper use of the savings bank there would be very few of them, who at attaining their majority would not have sufficient money at least to go into business for themselves.

Men in New York city, who have this matter at heart have made arrangements to distribute these, as tracts, everywhere. The saving banks all over the country, are buying them for gratuitous distribution and are thus helping along the work. The pamphlets are sold at \$75 for 5,000 copies, just about the price of the paper and printing. This also includes pinning one page of advertising for the institution ordering.

We feel the greater interest in this matter as it has been taken up entirely from benevolent motives and without expectation of pecuniary reward. The first edition, together with the printing and electrotyping, was entirely at the author's expense, being, as he termed it, a sort of thank-offering for his success in life. We understand that the printer fills orders for any quantity at the price we have named.

The American Odd Fellow for September is upon our table. Though it is the organ of the great secret society whose name it bears, yet we find in it a great deal of rich and spicy matter of interest to the general reader. In typographical appearance it ranks with the first in the country. The magazine deserves a large circulation, not only within the order but among the outsiders. It is published by the American Odd Fellow Association, 96 Nassau Street, New York.

H. MERRY, of Healdsburg, Sonoma Co., has been appointed Statistical Agent for the Agricultural Department.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Oct. 19th.

FLOUR—The market still continues quiet with very little demand for export. Sales reported embrace 3,000 bbls. Cal. extra, 2,500 Oregon extra and 2,000 Cal. superfine, at current rates. We quote prices without material change, as follows:

Superfine, \$7.00; 7.12½ extra, in sacks, \$7.75. Standard Oregon brands, extra, may be quoted \$7.75 @ 8.00.

WHEAT—The market has continued quiet, but at slightly improved figures, and with no demand for export. Sales embrace some 15,000 sacks fair to choice at \$2.55 @ 2.75. The market for fair may be quoted at the close at \$2.60; for choice \$2.75 per 100 lbs.

The latest Liverpool market quotation is of the 14th inst. when the price was 13s. 2d., an advance of 2d. since our last report.

BARLEY—Has been in limited demand at declining rates during the past week. Sales include 5,000 sacks ordinary coast to choice bay, at \$1.87½ @ \$2.12½. At the close we quote at \$1.87½ @ 2.05.

OATS—Market has been inactive and continues quiet. Sales have been 2,000 sacks ordinary coast to choice bay, at \$1.85 @ 2.00. Quotable at \$1.90 @ 2.00 per 100 lbs.

CORN—In limited demand during the week. We quote between \$2.15 @ 2.30.

CORNMEAL—Is quotable at \$2.15 @ 2.25.

BUCKWEAT—Quotable at \$2.75 @ 3.00.

RYE—According to quality is quotable at \$2.37½ @ \$2.50.

STRAW—Quotable at \$7.00 @ \$8.00 by the cargo.

BRAN—Demand fair at \$30 per ton from the mill.

MIDDLINGS—For feed are now selling at \$42.50 per ton from mills.

OIL CAKE MEAL—Is quotable at \$40 from the mill.

HAY—Receipts fair and demand good, during the past seven days, and prices are firm at \$18 @ 23 for fair to choice per ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½ @ 15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—Have come forward freely and are in good demand at firm prices at 70 @ 85c for Mission, and 87½ @ \$1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.25 @ 1.37½.

HOPS—We quote new at 40 @ 60c.

HIDES—Market steady with following sales during past week 1,563 Cal. dry at 17 @ 18½ and 1,480 salted at 8 @ 9c.

WOOL—The receipts continue free with only a moderate demand and mostly going into warehouse. There is no demand except for choice grades, and eastern orders have been entirely withdrawn owing to an uncertainty of feeling in the market. The prospect is not favorable for any immediate activity. Fall clip good to choice at 25 @ 28c per lb. Burry and dirty are neglected. Sales have aggregated about 100,000 pounds.

TALLOW—Market firm at 9 @ 10c per lb.

SEEDS—Flax 3c.; Canary, 7 @ 7½c.; Alfalfa, 15 @ 16c, new and clean, 19c. Mustard—California Brown, 4 @ 6c; Cal. White 4 @ 5c. per lb.

PROVISIONS—California Bacon 14 @ 15c; Oregon, 14½ @ 16c; Chicago 19 @ 21c; Cal. Hams 14½ @ 15; Oregon 15 @ 16½c California Sugar-cured Hams, 17 @ 18c; Oregon do, 17 @ 18c; Eastern do, 19 @ 20c; California Smoked Beef, 14c.

BEANS—The following are jobbing rates: Pea and small White \$2.00 @ 2.25; small Butter \$2.00 @ 2.50; large do, \$2.50 @ 2.75; Pink \$2 @ 2.12½; Bayo, \$3.25 @ 3½ per 100 lbs.

ONIONS—Are quotable at 80 @ 90c per 100 lbs. with few sales at latter price.

NUTS—California Almonds, 10 @ 12½c for hard and 15 @ 20c for soft shell; Peanuts, 7c; Pecan, 24c per lb.; walnuts, 12c; Hickory, 12c; Brazil, 16c.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8 @ 10c per lb. Do 2d quality 7 @ 8c per lb. Do 3d do 5 @ 6c per lb.

VEAL—Extremes, 7 @ 9c.

MUTTON—5 @ 6c per lb.

LAMB—Plentiful at 7c per lb.

PORK—Undressed grain-fed is quotable at 5½ @ 6c, dressed, grain-fed, 8½ @ 8½c.

POULTRY—Live Turkeys, 17 @ 18c per lb; Hens and large Roosters, \$5.00 @ 5.50; Spring Chickens, \$4.00 @ 4.50. Ducks, tame, \$6.00 @ 7.00 per doz. wild 1.50 @ 3.50; Geese, \$12 @ 15 per dozen.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 50 @ 55c; California firkin butter, 27½ @ 32½c. Eastern firkin 20 @ 30c.

CHEESE—In fair supply; California new, 10 @ 14½c., Eastern, 13½ @ 14½c. Eggs—California fresh, 52½ @ 55c. per doz. LARD—California Lard, 11-lb tins, 13 @ 14c; Oregon in bbls. 14½c.; Eastern do. 13 @ 13½c.

FRUIT.

| | | |
|---------------------------------|---------|---------|
| Tahitian Oranges..... | \$30 00 | @ 35 00 |
| Limes, per 1,000..... | 10 00 | @ 15 00 |
| Australian Lemons, per 100..... | 5 00 | @ 10 00 |
| Sicily do, per 100..... | 10 00 | @ 14 00 |
| Bananas, per bunch..... | 1 50 | @ 3 00 |

| | | |
|---------------------------------|------|---------|
| Cocoanuts, per 100..... | 8 00 | @ 10 00 |
| Apples..... | 60 | @ 1 00 |
| Pears, cooking..... | 50 | @ 1 00 |
| Bartlett do..... | 2 00 | @ 2 25 |
| Seckel do, per box..... | 1 00 | @ 2 00 |
| Peaches, per box..... | 1 50 | @ 2 00 |
| Choice Mountain do, per lb..... | 8 | @ 10 |
| Quinces, per box..... | 75 | @ 1 25 |

| | | |
|--------------------------------------|----|-------|
| Strawberries, per lb..... | 9 | @ 12½ |
| Plums, per lb..... | 4 | @ 6 |
| Prunes, per lb..... | 5 | @ 6 |
| Figs, per lb..... | 4 | @ 6 |
| Grapes, Sweetwater, per lb..... | 2 | @ 3 |
| Mission do, per lb..... | 1½ | @ 2 |
| Rose of Peru do, per lb..... | 2½ | @ 3 |
| Black Hamburg, do, per lb..... | 2½ | @ 3 |
| Muscat of Alexandria do, per lb..... | 3 | @ 5 |
| Flame Tokay do, per lb..... | 3 | @ 6 |
| Isabella do, per lb..... | — | @ — |

| | | |
|------------------------|----|------|
| Apples, per lb..... | 6 | @ 8 |
| Pears per lb..... | 8 | @ 10 |
| Apricots, per lb..... | 9 | @ 9½ |
| Plums, per lb..... | 6 | @ 8½ |
| Pitted do, per lb..... | 18 | @ 20 |
| Raisins per lb..... | 10 | @ 15 |

| | | |
|--------------------------------|------|--------|
| Cabbage, per lb..... | ¾ | @ 1¼ |
| Garlic, per lb..... | 1½ | @ — |
| String Beans, per lb..... | — | @ — |
| Summer Squash, per 100..... | 1 00 | @ — |
| Tomatoes, River, per box..... | 50 | @ 1 00 |
| Bay do, per box..... | 75 | @ 1 00 |
| Cucumbers, per box..... | 1 25 | @ 1 50 |
| Green Corn, per doz..... | 12 | @ 20 |
| Watermelons, each..... | 3 | @ 6 |
| Cantaloupes, per doz..... | 50 | @ 1 75 |
| Lima Beans, per lb..... | 2½ | @ 3 |
| Marrowfat Squash, per ton..... | 5 00 | @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—We note a limited demand at unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—Good demand for export—local trade has also been active. Cargoes of Oregon sell as follows: Rough, \$13; Dressed, \$23; Spruce, \$16.50. The following cargo rates for Redwood Lumber are maintained by the R. W. Lumber Association:

| | Merchable. | Refuse. |
|----------------------------------|------------|---------|
| Rough..... | \$15 00 | \$11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, beaded..... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Siding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | — |
| Picket, rough, pointed..... | 16 00 | — |
| Picket, dressed..... | 22 50 | — |

San Francisco Retail Market Rates.

FRIDAY, October 20, 1871

| MISCELLANEOUS. | |
|-----------------------------|-------------|
| Butter, Cal fr. lb..... | 60 @ 65 |
| Pickled, Cal. lb..... | 45 @ 50 |
| do Oregon, lb..... | 40 @ 45 |
| Honey, per lb..... | 25 @ 30 |
| Cheese, per lb..... | 20 @ 25 |
| Eggs, per doz..... | 40 @ 45 |
| Lard, per lb..... | 18 @ 20 |
| Sugar, cr., 6½ lb. 100..... | 10 @ 13 |
| Brown, do, 100 lb..... | 10 @ 13 |
| Beet, do..... | 1 00 @ 1 10 |
| Sugar, Map. do..... | 25 @ 30 |
| Plums, dried, lb..... | 25 @ 30 |
| Peaches, dried, lb..... | 15 @ 20 |

| PRODUCE, ETC. | |
|-------------------------|-------------|
| Codfish, dry, lb..... | 8 @ 10 |
| Flour, ex. per bbl..... | 8 00 @ 8 50 |
| Superfine, do..... | 6 00 @ 6 50 |
| Corn Meal, 100 lb..... | 3 00 @ 3 25 |
| Wheat, per 100 lbs..... | 2 75 @ 3 00 |
| Oats, per 100 lbs..... | 1 90 @ 2 10 |

| FRUITS, VEGETABLES, ETC. | |
|--------------------------------|-------------|
| Pine Apples, per 100..... | 5 00 @ 5 50 |
| Bananas, per 100..... | 3 00 @ 3 50 |
| Cal. Walnuts, lb..... | 75 @ 80 |
| Cranberries, lb..... | 75 @ 80 |
| Cranberries, ½ lb..... | 25 @ 30 |
| Apples, Early, per 100..... | 50 @ 55 |
| Red Astrakhan, per 100..... | 1 50 @ 2 00 |
| Red June, per 100..... | 2 00 @ 2 50 |
| Pears, table, per 100..... | 75 @ 80 |
| Plums, Cherry, per 100..... | 6 @ 8 |
| June, per 100..... | 10 @ 12½ |
| Apricots, Royal, per 100..... | 3 @ 4 |
| Moorpark, per 100..... | 3 @ 5 |
| White, per 100..... | 2½ @ 3 |
| Raspberries, lb..... | 15 @ 20 |
| Strawberries, lb..... | 25 @ 30 |
| Blackberries, lb..... | 8 @ 10 |
| Oranges, per 100..... | 30 @ 35 |
| Lemons, per 100..... | 5 00 @ 5 50 |
| Limes, per 100..... | 25 @ 30 |
| Figs, dried, per 100..... | 25 @ 30 |
| Asparagus, wb., per 100..... | 37½ @ 40 |
| Apricots, lb..... | 6 @ 10 |
| Artichokes, doz..... | 5 @ 75 |
| Brussels sprouts, per 100..... | 20 @ 25 |
| Beets, per doz..... | 2 @ 3 |
| Potatoes, lb..... | 4 @ 5 |
| Potatoes, sweet, lb..... | 4 @ 5 |
| Broccoli, per doz..... | 1 50 @ 2 00 |
| Cauliflower, per 100..... | 1 00 @ 1 50 |
| Cabbage, per doz..... | 75 @ 1 00 |
| Carrots, per doz..... | 10 @ 25 |

| POULTRY, GAME, MEATS, ETC. | |
|-----------------------------|-------------|
| Chickens, apiece..... | 50 @ 75 |
| Turkeys, per lb..... | 25 @ 30 |
| Ducks, wild, per p..... | 50 @ 100 |
| Tame, do..... | 1 50 @ 1 75 |
| Teal, per doz..... | 3 00 |
| Geese, wild, each..... | 3 00 @ 4 00 |
| Tame, per pair..... | 2 50 @ 3 00 |
| From Chicago, per pair..... | 3 00 @ 4 00 |
| Hens, each..... | 75 @ 1 00 |
| Snipe, per doz..... | 2 @ 50 |
| English, do..... | 12½ @ 15 |
| Venison, per lb..... | 12½ @ 15 |
| Quails, per doz..... | 2 25 @ 2 50 |
| Pigeons, dom. doz..... | 25 @ 30 |
| Wild, do..... | 1 50 @ 2 00 |
| Hares, each..... | 40 @ 50 |
| Rabbits, tame..... | 50 @ 100 |
| Wild, do..... | 75 @ 100 |
| Squirrel, per pair..... | 25 @ 30 |
| Beef, tend, per lb..... | 20 @ 25 |
| Sirloin and rib..... | 18 @ 20 |
| Corned, per lb..... | 10 @ 12 |
| Smoked, per lb..... | 15 @ 18 |
| Pork, rib, etc., lb..... | 12½ @ 15 |
| Cheese, do, per lb..... | 12 @ 15 |
| Veal, per lb..... | 15 @ 20 |
| Cutlet, do..... | 20 @ 25 |
| Mutton chops..... | 12½ @ 15 |
| Leg, per lb..... | 12½ @ 15 |
| Lamb, per lb..... | 18 @ 20 |
| Tongues, beef, ea..... | 75 @ 100 |
| Tongues, pig, ea..... | 15 @ 20 |

* Per lb. + Per dozen. * Per gallon.
\$5 to \$20 PER DAY AND NO RISK.—Do you want a situation as salesman at or near home to introduce our new 7-strand White Wire Clothes Lines, to last forever. Don't miss this chance. Sample Free. Address Hudson River Wire Works, 75 Williams street, N. Y., or 1 Dearborn street, Chicago, Ill. 23v1-12mhp
LADIES DESIRING TO PROCURE A FIRST-CLASS SEWING Machine against easy monthly installments may apply to No. 294 Bowery, 157 E. 26th, 477 9th Ave., New York Good work at high prices if desired. 21v1-12mbp

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|--|-----------------|
| SAN FRANCISCO, Thursday, October 19. | |
| SOLE LEATHER—Eastern shipments still keep the market firm and the demand good. | |
| City Tanned Leather, per lb..... | 26 @ 29 |
| Santa Cruz Leather, per lb..... | 26 @ 29 |
| Country Leather, per lb..... | 25 @ 28 |
| French stock comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm. | |
| California kip and calf skins are still scarce and high. | |
| Jodot, 8 Kil., per doz..... | \$60 00 @ 85 00 |
| Jodot, 11 to 19 Kil., per doz..... | 80 00 @ 95 00 |
| Jodot, second choice, 11 to 15 Kil., per doz..... | 60 00 @ 80 00 |
| Lemoine, 16 to 19 Kil., per doz..... | 55 00 @ 60 00 |
| Levin, 12 and 13 Kil., per doz..... | 68 00 @ 70 00 |
| Cornellian, 16 Kil., per doz..... | 72 00 @ 70 00 |
| Cornellian, 12 to 14 Kil., per doz..... | 65 00 @ 70 00 |
| Oregon Calf, per doz..... | 54 00 @ 60 00 |
| Mercier Calf, 16 Kil., per doz..... | 55 00 @ 60 00 |
| Robert Calf, 7 and 8 Kil..... | 35 00 @ 40 00 |
| Common French Calf Skins, per doz..... | 35 00 @ 75 00 |
| French Kips, per lb..... | 1 00 @ 1 30 |
| California Kip, per doz..... | 65 00 @ 80 00 |
| Eastern Wheel Stuffed Calf, per lb..... | 1 10 @ 1 25 |
| Eastern Bench Stuffed Calf, per lb..... | 1 10 @ 1 25 |
| Eastern Calf for Backs, per lb..... | 1 15 @ 1 25 |
| Sheep Roans for Topping, all colors, per doz..... | 8 00 @ 13 00 |
| Sheep Roans for Linings, per doz..... | 5 50 @ 10 50 |
| California Russet Sheep Skin Linings..... | 1 75 @ 5 50 |
| Best Jodot Calf Boot Legs, per pair..... | 5 25 |
| Good French Calf Boot Legs, per pair..... | 4 50 @ 5 00 |
| French Calf Boot Legs, per pair..... | 4 00 |
| Harness Leather, per lb..... | 30 @ 37½ |
| Carriage Leather, per doz..... | 48 00 @ 72 00 |
| Skirting Leather, per doz..... | 54 @ 37½ |
| Welt Leather, per doz..... | 30 00 @ 50 00 |
| Ruff Leather, per foot..... | 17 @ 21 |
| Wax Side Leather, per foot..... | 18 @ 29 |

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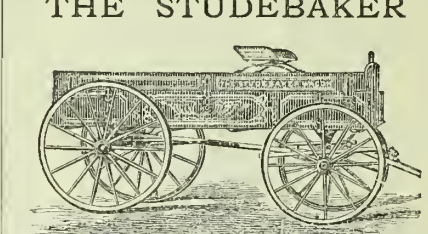
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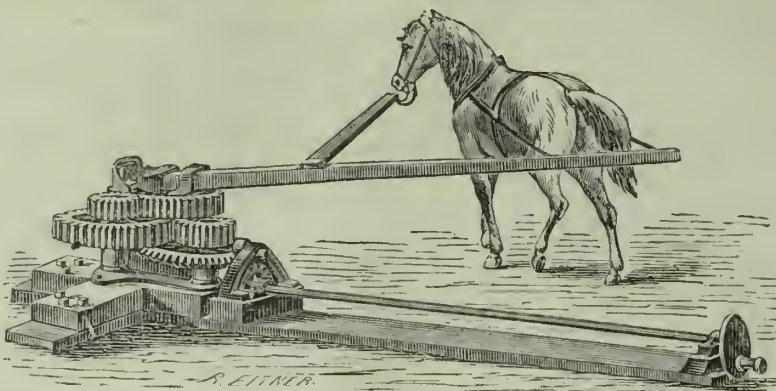
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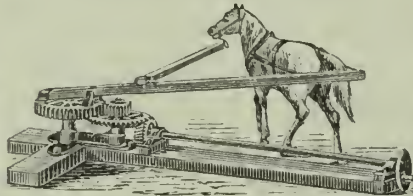
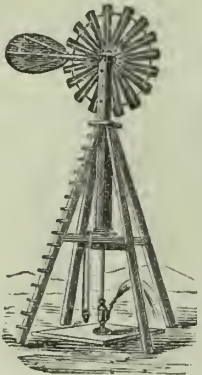
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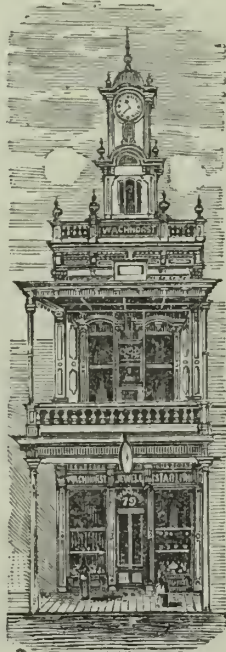
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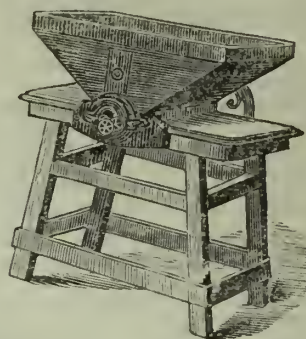
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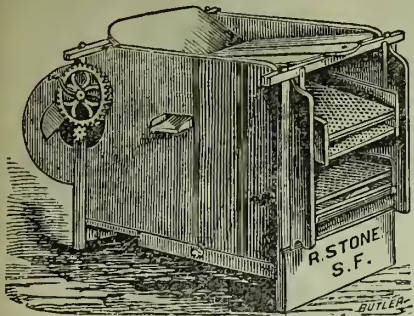
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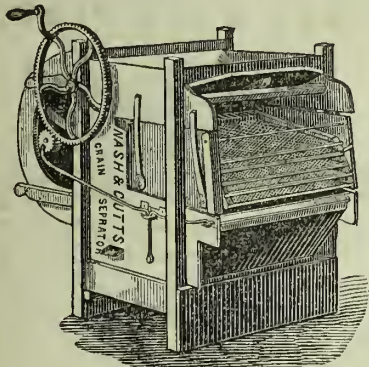
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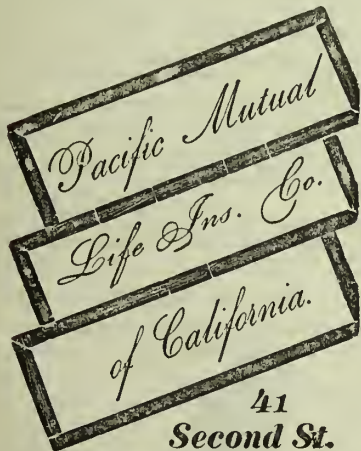
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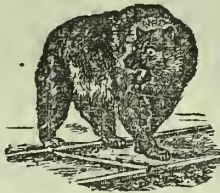
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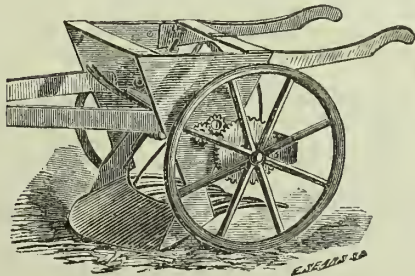
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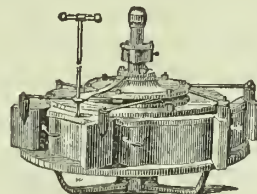
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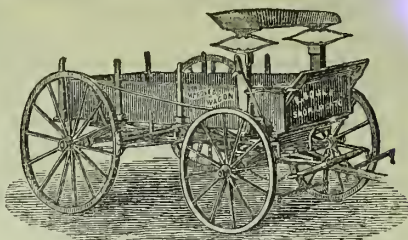
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They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrows close on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel Cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

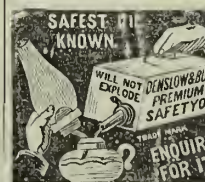
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19v1-7m

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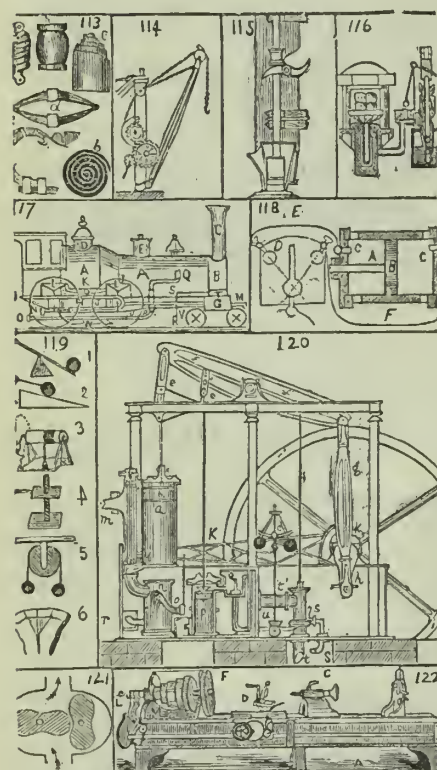
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Stands a fire test over 150° Fahrenheit. We take ordinary Kerosene 110° fire test, and re-distill it by our new process, rejecting fully 1/2 (Benzine and Tar), the cause of all Kerosene explosions, bad odors, smoke, gas, etc. Our "SAFETY" Oil costs 1/2 cent per hour, and a lighted lamp may be used and broken without fear of explosion or fire. The Fire Underwriters of N. Y. recommend its use as a protection to life and property. For sale by all grocers, druggists, etc., in the U. S. Extra inducements to dealers and agents. Address **DENSLAW & BUSH,** 130 Maiden Lane, N. Y., 8 Custom H. street, Boston, Mass., 34 S. Calvert street, Baltimore, Md., 51 S. Water street, Chicago, Ill., or Cleveland, Ohio. P. S.—5-galls. expressed for \$3 to any place where not for sale.
5v23-13t

THOUGHTFUL FRIENDS.

The earnest friendship of many appreciative readers—strangers to us—has been a strong incentive to the editors and publishers of the Press since its commencement. We feel thankful for all such kindness. The following is one manner of trying to help us which might be extended:

*** August 6, 1871.—Messrs. DEWEY & Co.: Please send a copy of your valuable paper to Mr. *** at the P. O. He is a friend and neighbor of mine, a good farmer, and I think would subscribe for the RURAL if he only saw it to judge of its merits. Yours, ***

Dewey & Co., U. S. and Foreign Patent Solicitors and Counsellors, Scientific Press Office.
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10,000 ACRES LAND TO LET,
Suitable for Farming.

The land is level and of the best quality for farming, and will be rented in tracts to suit on very reasonable terms, on shares, or otherwise.

T. H. HATCH & CO.,
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DEWEY & CO., Pacific Rural and Scientific Press

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Diagram of prominent streets near Scientific Press Office.

PATENT AGENCY, 338 Montgomery St., 3d floor, S. E. cor. California, S. F.

THE PEOPLE'S PRACTICAL POULTRY BOOK,
A Work on the Breeds, Breeding, Rearing and General Management of Poultry,
BY WM. M. LEWIS.

Illustrated with over 100 Engravings.

NEW YORK, 1871: SOLD BY DEWEY & CO., AT THIS OFFICE, FOR \$1.75. POST PAID, \$2.00.

The following recent notice of this book gives the reader a limited idea only of its practical value:

This valuable treatise places within the reach of all desiring it, a very full knowledge of the poultry yard. It not only records the views and experiences of the writer himself, but also that of the most careful scientific and reliable breeders and fanciers in the country. The reader can judge for himself the best system to follow, and in this he is aided by the author's industry in providing numerous authorities on the subject. He advocates the raising of fowls in city as well as country, and gives good reasons for his views—a prominent one of which is the convenience of having fresh eggs all the year round.

The poultry yard produces food which is highly palatable and convenient at all seasons, but if left to take care of itself, the products are often wasted, and the occupants one-half the year non-layers. The general management of fowls; fattening and preparing for market; varieties, history and characteristics of breeds are matters described in their order. The management and breeds of turkeys, varieties and management of ducks, and different breeds and care of geese, are specially noticed.

The book contains a chapter on the diseases of poultry, the symptoms, care, treatment, preventives, remedies, etc., and will be found of great interest and use to the house-wife who delights in looking carefully after her feathered pets.

There is a chapter on "caponizing," which will be one of interest to persons in this country, as it is a matter to which little attention is paid, outside of Europe. The *modus operandi* is described minutely, so that one unaccustomed to performing it might do so without danger to the fowl. A short sketch of the anatomy of the egg is also given, and the hatching and rearing of chickens, by artificial means, is treated of at some length. In connection with the latter subject are numerous engravings of different incubators with an explanation of each.



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IMPROVED STEAM WATER LIFTER,
With neither Engine, Piston, or Plunger.

The most Simple, Durable, and in all respects the most Economical of all Steam Pumps. Uses the same steam twice instead of once. Any person can run it. They are used on the Central and Western Pacific R. R. from Oakland to Ogden. They are used for Water Works, Mining, Irrigation, and all other ordinary pumping. Send for Descriptive Circular and Price List. Address ALLEN WILCOX, No. 21 Fremont street, San Francisco. 16v2-3m

State Fair Gold Medals.

The Committee to award the Gold Medals offered by the State Agricultural Society for 1871, will meet at the Society's rooms, corner Sixth and M streets, Sacramento, November 1st, at 2 o'clock P. M. Prior to that time all claimants for any of said Medals are required to furnish to the undersigned a statement in writing of all facts and statistics relative to the manufacture or production of the article or articles upon which they claim the award of the Medals, or upon which they base their claim of merit.

I. N. HOAG,
oc14-3t Corresponding Secretary.


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Repairs and Tunes
ALL KINDS OF
MUSICAL INSTRUMENTS,
Either Brass, Reed or String.

Special attention given to PIANOS, ORGANS, or MELODEONS.
Mr. B. is a practical workman of twenty-five years experience, and employs none but experienced workmen.
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8v23-3ma

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SEEDSMAN,
Importer and Dealer in all kinds of
Vegetable, Flower, Field, Fruit and
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GARDEN TOOLS, PLANTS, TREES,
California Tree and Flower Seeds, Etc.
No. 317 Washington Street,
Between Battery and Front.....SAN FRANCISCO.
6v2-1y4p

**HILL'S PATENT
EUREKA GANG PLOW,**



The undersigned, Manufacturers of "HILL'S PATENT EUREKA GANG PLOWS," take this method of calling the attention of Agriculturists throughout the Pacific States and Territories to the merits of the above named Plows, and offer the following reasons why they are entitled to preference over any other Plow in use. They are made of the best material, and every Plow warranted. They are of light draught, easily adapted to any depth, and are very easily handled. They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!
These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,
which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by
HILL & KNAUGH.
And also by most leading Agricultural Dealers in the State. All others are invited to apply at once for Circulars, prices, etc. 16v23-tf

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Importer and Breeder of
CHOICE POULTRY.
Every variety of Fancy Poultry constantly on hand and for sale.
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10,000 Acres of Land,
Situated upon
GRAND ISLAND,
Twenty miles south of Sacramento,
FOR LEASE ON SHARES FOR ONE, TWO OR THREE YEARS.

The construction of the levee is now going ahead. This land CANNOT BE EXCELLED IN PRODUCTIONS. Shipments can be made from any portion of the island by all classes of vessels.

Apply to
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401 California street, San Francisco.
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16v2-tf



Volume II.]

SAN FRANCISCO, SATURDAY, OCTOBER 28, 1871.

[Number 17.]

SELECTING CATTLE.

The question often arises: Is there or can there be a breed of animals produced that will furnish both milk and beef in their highest perfection and largest quantity? We believe the question, thus far, has been answered in the negative. It is a well established fact that as we breed, so we get. We may breed for several qualities or a single one; but experience teaches us that better success usually attends the latter than the former. When we breed especially for milk, we are quite sure to attain that object; so if we desire beef; but it is extremely difficult to unite those two excellencies, in a high degree, in the same animal. A fair milker may be produced which will make passable beef, and *vice versa*; but, as a general rule, when we require milkers for a term of years, it is better to look exclusively to that point, even if at the end the carcass is given away.

In selecting an animal, whether for milk or beef, there are certain characteristics which are common to all varieties that are well bred. The most prominent indication is a loose, thick, mellow skin, which at the touch feels as if floating upon a stratum of fat below. Such a skin, if found upon a high-blooded animal, is invariably covered with a soft, mossy-feeling hair. A certain indescribable fineness of texture will also be observed over the whole body—more prominently developed, perhaps, in the beef animal than in the milker. All the extremities of the limbs will be fine, shapely and tapering. The eye will be prominently set, and with a placid expression. The ears will be sensitive; the chest broad; the line of the back straight and level; the ribs round, and the tail flat at the top, and tapering to the tuft. A hollow back indicates that the animal will take on fat and flesh upon the under part of the carcass, and form an undue increase of tallow in the interior.

In order to study or describe an animal, it is necessary to be familiar with the nomenclature of its external points. To that end we herewith present a portrait in which the points are distinctly marked and named, as below, in conformity with the figures introduced in the portrait:

A, forehead; B, face; C, cheek; D, muzzle; E, neck; G, shoulder point; H, arm; I, shank; K, elbow; L, brisket or breast; M, shoulder; N, crops; O, loin; P, hips, hocks or huckles; Q, crupper bone; R, rump or pin bone; S, round bone; T, buttock; U, thigh or gaskit; V, flank; W, plates; X, back of chine; Y, throat; a, chest; b, gambrel or hock.

FIRES.—We hear of numerous fires all over this and adjoining States and Territories—most of them in the woods and fields, where they have been very destructive, but may in towns and isolated localities, where much damage has been done. On Friday last a destructive fire broke out in the town of Elko, on the C. P. Railroad, which resulted in the destruction of 30 buildings, with some \$60,000 worth of property. It is to be hoped that the rains will soon come, if for no other purpose than to moisten the present dried combustible matter now lying anywhere around, and endangering life and property all over the Pacific slope.

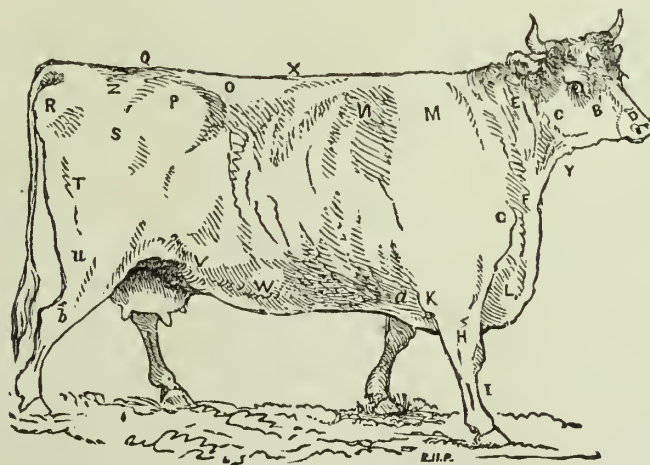
Important Industrial Enterprise.

The Vallejo *Chronicle* makes extended reference to an important industrial enterprise which has just taken shape in Vallejo, as an incorporation, with a capital of \$4,000,000, with an indefinite amount of funds behind that, to be called for when profitable investment for the same can be found. The Trustees are John B. Frisbie, Leland Stanford, M. S. Latham, F. D. Atherton, of California, and A. DeLaski and E. H. Green, of London.

The object of this incorporation is to improve the facilities presented by Vallejo as a railroad terminus and shipping point. Manufactories of various kinds will be established, distilleries, etc., put in operation, and every encouragement will be extended toward the development of the neighboring country. Immigration of skilled mechanics and operatives will also be encouraged, and all reasonable assistance will be extended to such industrial enterprises as can be profitably carried on there. Encouragement will also be given

ASSIMILATION OF FOOD.—Of the entire bulk of a barrel of flour taken into the human stomach, even with a reasonably fair digestion, not more than four pounds actually enter into the composition of the body. With growing persons much of this goes to increase the amount of flesh and bone; but with older persons, it goes chiefly to make up the daily waste of bone and muscle. Man is the highest and best fed of all the animal creation, but he assimilates less from his food than any other animal.

Take any given human population, and its average increase of weight is not more than two per cent per annum; that is all that any community saves out of its food, and this saving is nearly all made by that portion of the population under 20 years of age. On the other hand, the total increase in weight of a flock of sheep, old and young, is from 40 to 60 per cent. in the same time. There is a smaller waste of poorer food on the part of sheep. We last week recorded an instance, (as an extreme case) in the experience of Mr. Lawes



POINTS OF HORNED STOCK.

to the extension of railroad lines in various directions from that point.

Active steps will be taken in the spring to carry out the objects of the association. It is the intention, by establishing a free port, and otherwise favoring shipping interests, to make Vallejo the exclusive shipping point for all wheat and other products which can be raised for export along the various railroad and river routes which diverge from that port. It is understood that a connecting link will be built between the Petaluma and Vallejo roads in season for the movement of the next harvest crop. If there is no mistake in the general scope and purposes of this corporation, it will soon become one of the most important industrial enterprises ever set on foot on the Pacific Slope.

SHEEP OVER THE MOUNTAINS.—It is said that not less than one million sheep have crossed from California to Nevada, this season by the Big Tree and Mono turnpikes alone. Good judges say that from seven to eight millions have crossed by all the routes.

of England, when a fatling pig was made to increase his weight from 100 to 200 lbs in 17 weeks, consuming in the meantime 500 lbs of barley meal.

WILD GRAPES.—The Mendocino *Democrat*, truly says that any country that will produce wild grapes in such quantities as the Russian River bottom does, must be well adapted to the cultivation of the domestic varieties. A mile below Sanel, on the road to Cloverdale, there is a thicket in which the trees and underbrush are covered with grape vines. The fruit is hanging in large clusters, and so thick that at a little distance the trees appear to be a solid mass of grapes. From appearances we should suppose there were hundreds of tons to the acre.

HORTICULTURAL EXHIBITION FOR 1872.—The Bay District Horticultural Society have resolved to hold their next exhibition in this city during the second week in May next. This season will probably give the society an opportunity to make a different, and perhaps a much finer show of floriculture than on former occasions.

A "Turkey Ranch."

There is along the base of the Sierra Nevada mountains, in Sacramento valley, especially between the American and Yuba rivers, a designation in common use which implies to the observing traveler through that region, a profitable business. When there are so few things that pay with certainty, (on the basis of a small capital to begin upon,) it may be worth the while for us to make note for the benefit of the *RURAL*, as we take the road past the "Turkey Ranch," what sort of herding is here carried on.

Turkeys bring 20 cents per pound in the market, while common fowl, beef, and other meats range from two-thirds that figure down to less than half. It costs almost nothing to start a turkey ranch; and those who are in the business, on the rolling, gravelly plains, or in the foot-hills, find no difficulty whatever in multiplying their stock to 1,000 and 2,000 head.

Usually an allowance is made for a loss of half at that. The turkey rancher tells you that if he can bring up half of those that he hatches, he can make a very handsome profit out of his time and care.

The turkeys find some seeds on the plains, but what pleases them quite as well, and fattens them better—grasshoppers, in abundance. They travel after the grasshopper—the same that

"Sat upon a sweet potato vine,"—

the rural song that doles poetically the fate of whom, must in all probability have been composed by a turkey rancher in an inspired moment.

When the turkeys have traveled several hours—and several miles—out of sight, the rancher deems it his interest and duty to go and look them up, and he brings them up, and he brings them back, at least by night-fall.

That sly rogue, the badger, comes out of his hole when he finds that the rancher is asleep in the red-hot days of July. He loves the fun of annoying our honest ranchero as much as he does the chase of the turkey. Woe betide him if he continues his provocations to the extent of being finally dug out, to meet the reward of his heinous crimes.

A moralizing turkey-herder may sometimes be heard reflecting aloud: "It beats all how the turkeys can travel!"

THE WEATHER hereabouts, for a few days past, has been quite cloudy and cool, with indications of rain. A heavy rain fell in Oregon on Monday. There was a heavy fall of rain at Bodega on the night of the 23d, and other parts of Sonoma county were visited with a fog almost equalling the rain. A severe snow storm set in at Rawlin's Station, on the U. P. R. R., in Wyoming on Thursday of last week. Snow has fallen to the depth of three feet.

OUR OWN SUFFERERS.—Mr. John Widney, one of the leading merchants of Santa Clara, has forwarded five barrels of flour to be distributed among the suffering farmers of San Joaquin.

MECHANICAL PROGRESS.

Floors for Workshops, Etc.

Mr. Coleman Sellers, writes to the *Journal of the Franklin Institute* as follows:—Ground floors for large machine shops are very often made with the plank resting on the surface of the ground, the sleepers to which they are spiked being imbedded in the ground. I have been informed that white pine planks last longer than oak for the same purpose, and it is in fact considered the best wood for the purpose. Some attempts have been made to prevent the decay of such floors, but the question has at once arisen as to the economy in each case. Floors where heavy machinery is erected are subject to very severe wear, and it is asserted that a two-inch white pine floor will wear through in such a place before it has rotted out.

On the line of the Georgia Central Railroad floors have been laid in a peculiar manner, which is deserving of note. The ground is levelled off for the floor, and ditches dug to receive the string-pieces or joists; these are coated with melted rosin, before being laid, on the three sides in contact with the ground. The floor is then laid, with a space of half an inch between the surface of the ground and the under side of the floor planks. After the floor is all down, holes are bored, at intervals of say three feet, over the whole surface, and melted rosin poured into the space below the floor, to entirely separate the planks from the ground. The President of that road, says that floors so laid show no signs of decay, after many years use, in places where the floors usually rotted out in a short time. The asphalt pavement was adopted in one large shop in this city, but I have not heard how it has stood the test of wear. It was made of spawls from granite mixed with coal tar and asphalt.

In connection with the decay of floors it may be well to note that reliable builders state that on outside walls the ground floor joists are likely to rot off in about fourteen to fifteen years. My attention was called to this by the sinking of the floors in two houses in West Philadelphia, which had been built about fifteen years. An examination of the case showed that all the joists which had so rotted had been built into the wall at the ends, and the rot had occurred where the timber was excluded from the air and submitted to the moisture of the outside walls.

Examining houses in the country which have been erected for at least fifty years, I find the joists still sound, but in no instance have I observed the practice followed of carrying up the cellar wall flush between the joists, as is now the custom in cities. It seems evident that the best plan is to make an offset in the cellar wall to receive the joists, and, if the space between the joists is to be filled up for the looks, to let the filling in fall back of the face of the wall, below the joists, say one or two inches.

COMBINED RUBBER AND COPPER WIRE FOR PIPE COUPLINGS.—Mr. Fredrick Kibler of Baltimore, Maryland, has patented an improved joint for water pipes, steam pipes and steam chests, around bolts and other places, whether the joint be round, square, or of any other shape, which is claimed to be simple in construction and reliable and effective in use; it consists in a rubber or equivalent plate and copper wire for forming the joint. The plate made of rubber or other suitable material, is cut to fit between the faces that form the joint. Upon the plate is placed a copper wire, bent into a form corresponding with the hole or opening around which the joint is formed. The copper wire, which forms the real joint, should be one size larger than the thickness of the rubber plate, so that it may be flattened down between the faces of the joint, and may thus make the joint more perfect. This construction enables the wire to be arranged upon the rubber plate as may be desired, or so as to avoid flaws or imperfections in the plates or faces between which the joint is formed. If desired, two rubber plates may be used, with the copper wire placed between them.

A NEW PRINCIPLE IN SEWING MACHINES. Something entirely new has just been introduced to the public, in New York, and was exhibited for the first time on Thursday evening, at the Fair of the American Institute. It consists in making the shuttle stitch from two ordinary spools of thread without rewinding, and is certainly a very great improvement in the sewing

machine line. This has often been attempted, and a great deal of money has been expended in trying to accomplish it, but until now it has not been a success. It is claimed to be the greatest improvement made in this line since the needle and shuttle introduced by Howe, and the drop-feed by A. B. Wilson. Its value is testified to by a large number of people who have examined it at the Fair.

Patents have been secured in this country and Europe, and it is in the hands of a very strong and wealthy company, which numbers among its Directors some of our wealthiest men, and the invention will soon be placed before the public.

THE WASHING OF CANAL BANKS.—The *Iron Age*, in noticing the proposition of Mr. Myers to clothe the sides of the banks of canals with iron plates, an eighth of an inch in thickness, securely fastened, and suspended about equally above and below the water line, to prevent injury to the banks from the wash of passing boats, and the device says it would be a very good one if there were any serious wash to obviate. As it is, however, the invention is designed to meet an imaginary necessity, so far as the Erie Canal is concerned.

It may be, adds the *Age*, that, on some canals, the banks are injured by the wash of which we hear so much, although we have never seen an instance in which such was the case; but the Erie and other New York State canals suffer no such damage, nor is it either necessary or desirable to take the banks into consideration in seeking a solution of the question of steam navigation. This is a mistake which inventors persist in making, notwithstanding the assurance of the Canal Commissioners and the Commissioners of the State bounty, that no possible injury can be done to the banks by any system of propulsion which is mechanically adapted to the business of the canals. If this could be impressed upon the minds of those who are designing and building steam canal boats, many of the imaginary difficulties would disappear, and inventors would be saved the trouble and expense of making costly and useless experiments. If sufficient power is provided for economical traction, the banks will take care of themselves. The above facts with regard to the washing of canal banks, will be new to most of our readers; but they are no doubt correct.

TESTING SILVERY COATING OF METALS.—It is sometimes a matter of interest to be able to determine, by means of a simple test, the nature of a silvery coating to a metal, whether it be pure silver or some other substance. This is said to be readily accomplished by the use of a cold saturated solution of bichromate of potash in pure nitric acid, of one and two-tenths specific gravity. The surface of the article to be tested is to be first washed with strong alcohol, so as to remove any lacquering, and then a drop of the solution applied by means of a glass rod, the place affected being immediately rinsed off with water. If the substance in question be silver a distinct blood-red spot of chromate of silver will be perceived. The spot is brown on German silver, and after rinsing shows no trace of red. With Britannia (composed of tin, antimony and a little copper,) a black spot will be developed, but no effect will be seen with platinum. Upon a surface amalgamated with mercury a reddish-brown deposit will be perceived, which is completely washed away on rinsing. With lead and bismuth a yellow deposit remains. Zinc becomes strongly etched, the liquid, however, disappearing completely on washing. Tin is attacked also very decidedly, but the test liquid imparts a brownish color, and an addition of water produces a yellow deposit which readily attaches itself to the metal.

WIRE SURFACE FOR PLASTERING.—The most ingenious device has recently been patented by Mr. Jas. Johns, of Chicago, in the use of wire in forming a plastering surface. The plan consists not in the use of any wire net-work expressly manufactured for the purpose, as might be supposed, but simply in the fastening of ordinary wire upon the posts, in place of lath. The wire is passed from a reel and drawn tightly in parallel horizontal lines about half an inch apart. It is attached to the standards by means of two narrow strips of iron, one of which is nailed to the post, and another fastened in the same manner upon the first, the wires being held at equal distances apart between the iron strips. It would naturally be supposed that plastering applied upon this wire would pass largely through, and fall off, but this does not prove the case, and the result of the device is a solid wall of plaster, through the middle of which the wires extend, holding it firmly.

SCIENTIFIC PROGRESS.

The Nature of Comets.

Sir William Thompson, in his late address before the British Association, at Edinburgh, referred substantially as follows to some late speculations with regard to the nature of comets: Most important steps have been recently made toward the discovery of the nature of comets. One of the theories is that they consist of groups of meteoric stones. In 1866, Schiaparelli calculated from observations on the August meteors, an orbit for these bodies which he found to agree almost perfectly with the orbit of the great comet of 1862. * * * The densest part of the train, when near enough to us, is visible as the head of the comet, which is self-luminous in its nucleus, on account of collisions among its constituents, while its "tail" is merely a portion of the less dense part of the train illuminated by sunlight, and visible or invisible to us according to circumstances, not only of density, degree of illumination, and nearness, but also of tactic arrangement, as of a flock of birds or the edge of a cloud of tobacco smoke.

One of the most serious objections to the above theory is hinted at as follows: "In no respect is the question as to the materiality of the tail more forcibly pressed on us for consideration than in that of the enormous sweep which it makes round the Sun in *perihelion* in a manner of a straight and rigid rod, in defiance of the law of gravitation." "The projection of this ray, to so enormous a length, in a single day, conveys an impression of the intensity of the forces acting to produce such a velocity of material transfer through space, such as no other natural phenomenon is capable of exciting. It is clear that if we have to deal here with matter, such as we conceive it, viz., possessing inertia—at all, it must be under the dominion of forces incomparably more energetic than gravitation, and quite of a different nature."

Think now of the admirable simplicity with which Tait's beautiful "sea-bird analogy," as it has been called, can explain all these phenomena.

THE FIVE RACES OF MEN.—It is a hundred years or so since the scientific men of Europe settled upon the classification of mankind, which has since prevailed—Caucasian, Mongolian, Negro, Malay and American—a very rude division, which has been found quite inadequate of late years to satisfy the advance of ethnological knowledge. Three or four years ago Professor Huxley indicated his belief in quite a different classification, which he has now illustrated in a paper contributed by him to the British "Journal of the Ethnological Society." He believes in four principal types of mankind, and a fifth which he derives from two of these four. His classification is: 1. The Australoid type found in all Australia, except in Tasmania, and among the hill tribes of the Deccan in Hindostan. 2. The Negroid type, found in all Africa, between Sahara and the cape, including Madagascar, and including as a modified form the Malays and the inhabitants of Tasmania, and the island of Continental Australia, whom, with some others, Huxley calls Negrito. 3. The Xanthochroic or fair-skinned type, found chiefly in Central Europe, but extending into Northern Africa, Syria and Arabia, and even as far as Hindostan; and 4. The Mongolian type, inhabiting an enormous area lying mainly east of a line drawn from Lapland to Siam, but including the Dyaks of Borneo and many of the islanders of the Asiatic archipelago, or "Indonesia," who are mixed with the Australoid type, and including also the Esquimaux, Greenlanders and American Indians.

The four great groups of men, according to Huxley, occupy all the world except Western and Southern Europe, Northern Africa, Asia Minor, Syria, Arabia, Persia and Hindostan. In these regions are found, more or less mixed with Xanthochroic and Mongoloids, and extending for a great distance into the regions occupied by the four great types, the Melanochoic or dark-skinned whites whom he regards as a mixture of the Xanthochroic and Australoid types. He considers the Egyptians, ancient and modern, as a modification of the Australoid type, and not Melanochoic; but the latter, in their best form, are represented by many Welshmen, Irishmen and Bretons, by Spaniards, South Italians, Greeks, Armenians, Arabs and high-caste Bramins.

Use of Chloride of Iron in Metallurgy.

A process has been patented in Paris by D. Chalandre, for the employment of chloride of iron in the reduction of ores containing sulphur, arsenic, and antimony. The reaction is founded upon the property of the chloride of iron in the presence of air and moisture to decompose the sulphur, arsenic, and antimony compounds of the metals such as iron, copper, cobalt, and nickel. The proto-chloride is changed to sesqui-chloride, and the above-named metals are converted into chlorides. By exposure to the air the chloride of iron is again reclaimed, and can be used over again. It may sometimes be necessary to add a little nitric acid in order to hasten this operation. If iron and copper pyrites are present it is only necessary to add chloride of sodium, as by the presence of the chloride of iron and atmospheric air, the sulphur of the ores will be oxidized to sulphuric acid, which will occasion the formation of sulphate of iron or sulphate of copper, and there will also be produced some sulphate of soda.—*Journal of Applied Chemistry*.

EXTRACT OF HORSE-CHESTNUT WOOD.—For dyeing heavy black upon silk an extract of horse-chestnut wood has recently acquired great importance. It is preferred to nut galls or divi-divi for this purpose. To what particular principle in the wood is to be ascribed the important property of which use is now made, has not been determined with certainty, but it appears to be ascertained that the extractive matter of horse-chestnut wood now plays an important part in the silk manufacture of Europe. The question is not one of so much importance in this country as it is in France and Germany, but it ought to occasion a search to be made for some suitable substitute. We doubtless have in our forests, trees that would yield a similar product if they were to be examined. There is a weed growing in great abundance in New England known as *hard hack*, which ought to be examined with reference to its possible use in dyeing and tanning. It is a nuisance as it now exists, and if it could be used for anything, could be had in immense quantity.

PICRIC POWDER.—Prof. Abel, chemist to the British War Department, has, after prosecuting numerous experiments, succeeded in perfecting the new explosive agent recently produced by him, under the name of picric powder, as a material for charging shells. Although it is not so violent in action as gun-cotton, nitro-glycerine, or picrate of potash, picric powder is a much more powerful explosive than gunpowder, and has other properties which appear to render it peculiarly adapted for employment in shells. Its merits are, that it may be readily and expeditiously prepared, and that it is remarkable for its safety as compared with all other explosive agents, being somewhat less sensitive to ignition by percussion than gunpowder. The president of the committee of Explosives at Woolwich having pronounced the new powder worthy of further experiment, it will be tried under various conditions in order to ascertain its suitability to the requirements of the service.

DO FORESTS INCREASE THE RAIN FALL.—Prof. Henry, of the Smithsonian Institute, in an interesting address upon the methods of observation, and the results of the meteorological observers engaged by the Institution, lately remarked upon the popularly accepted belief, that the removal of forests, and, generally speaking, cultivation, tended to diminish the amount of rain fall. He expressed the opinion that the observations of the Institution, which extend over a period of twenty years, have as yet failed to establish a theory of this kind, and that it must therefore be regarded as a gratuitous hypothesis unsubstantiated by fact.

YELLOW COLOR FOR SOAP.—The chemical works of Schering, in Berlin, have introduced two shades of sulphide of cadmium, a lemon and orange yellow, for the coloring of toilet soap. Of all the agents thus far tried to give a lively yellow color to soap, sulphide of cadmium (cadmium yellow) has proved the most permanent. Age and sunlight do not affect the color, and the quantity required is exceedingly small. The application is as follows: The cadmium yellow is rubbed up with oil, and added to the soap under constant stirring. The color is not dissolved in the soap, but suspended in it and much depends upon careful mixing.

CORRESPONDENCE.

NOTES OF TRAVEL IN MONTEREY COUNTY.—CONTINUED.

BY OUR TRAVELING CORRESPONDENT.

EDS. PRESS:—Some of the finest—and certainly the largest—dairies are located in this county that exist in the State.

Laird & Kellogg.

The above-named gentlemen are the possessors of 5,400 acres of choice land, (a part of the "Buena Esperanza y Encinal Rancho,") adjoining the ranch of Jesse D. Carr, situated about nine miles from Salinas; they have the same stocked with 60 head of good horses, 600 head of young cattle, and 400 additional milch cows. This firm make butter and cheese and market \$25,000 worth of those products annually. They regularly employ fifteen men.

C. S. Abbott

OWES 3,500 acres, and leases 4,000 more, situated on a part of "Llano de Buena Vista Rancho," five miles southeast of Salinas City, (i. e., the improvements); but the land runs to within 1½ miles of the above-named place. The Salinas river forms a portion of the boundary line. Mr. A. is also the possessor of 7,000 acres more, 35 miles farther up the Salinas.

The Model Dairy of the State.

Mr. Abbott certainly has the finest, most complete and orderly dairy in the State. Six hundred cows are milked night and morning, and 500 more are leased to other parties close by. Twenty-five men find regular employment in the different departments, and every department is in perfect order; everything in its place and a place for everything. As an item—with-out describing its size, beauty and machinery—the cost of the milk-house alone was \$10,000, other improvements amounting in the aggregate to \$50,000. This ranch is also stocked with 100 head of horses, 25 of which are good American stock; also 300 head of hogs, fed on milk exclusively. There are 25 miles of fencing on this farm. I neglected to state that Mr. A. makes no cheese, but butter only, and in the best of the season has averaged one pound per day to the cow for his entire stock; he has also a fine orchard with all kinds of semi-tropical fruits, yielding abundantly, and raises all his own vegetables. The farm is well watered and timbered, in fact everything to make a home comfortable and to be desired.

San Juan

is situated in a beautiful valley, perhaps one of the richest in the State, though not large in extent—it overlooks the country surrounding,—and as stated in my letter is 29 miles north of Monterey. The principal occupation of its inhabitants is wool and stock raising. Flint, Bixby & Co., in the immediate vicinity of San Juan, number their broad acres by thousands, and their sheep by tens of thousands. Breen Bros. own cattle and horses by thousands, besides large tracts of arable and grazing land. On an eminence commanding a fine view of the surrounding country is situated the public school-house, erected in July, 1869, at a cost of \$5,000, furniture, etc., cost over 1,000 more, making a total cost of house, furniture, library, bell, organ, etc., of \$6,500; it has an average daily attendance of over 100 pupils—taught by S. M. Shearer, principal, with Mrs. Shearer, and Miss F. B. Canfield, as assistants.

The nearest point to the railroad from the town is 3¼ miles; but unless the people are enterprising and alive to their interests, the depot for the surrounding country, will be established at El Paso bridge district six miles.

The San Benito River, during the winter season, especially a long wet one, is treacherous, owing to its quicksand, hence impassable.

San Juan, at present writing, contains about 500 inhabitants. During 1868 this place was visited by a terrible scourge of small-pox; from the latter part of October of that year to January 15th, 1869, some 160 souls were carried away with this fatal disease. Nearly all business for a time ceased, and its inhabitants fled in every

direction. Confidence was gradually restored until now its people mention it only as a thing of the past.

Mission of San Juan.

This Mission, (of which there were at one time in this State 16), was first founded in the year 1797, by Father Furmin Francisco de Laswen, then President of all these missions. This place was then called "Popeloutchon" by the Aborigines; and "San Benito" by the settlers. Its first missionaries were, Fathers Joseph Manuel de Martiarena, and Peter Adriano Martinez. The corner stone of the present church was laid in the year 1803, at which time the number of baptisms at this Mission had reached 1963; now they number 7,600; of course this multitude of people, have nearly all passed away, the time extending as it does, through a period of 75 years.

Missions, Presidios and Pueblos.—A Page From History.

Three different establishments of settlements, occurred in the early history of this State. First, Missions; which were intended for the civilization of the Indians, under the control of the Fathers, and at one time numbered 16 in this State, (some have since passed into ruins and been abandoned). Second, Presidios; which were intended for fortresses, or barracks, for means of defence, against the hostile Indians; of these there were four, viz: San Francisco, Monterey, Santa Barbara and San Diego. Third, Pueblos, (or towns) of which there were but two, until within the last quarter of a century, which were San José and Los Angeles; San José, the oldest of the two, was founded in November, 1777, and Los Angeles in 1781. This Mission is at present presided over by Father C. Rubio. I cannot give the exact size of the buildings connected with this Mission, but the grounds belonging to the same consist of about four acres. The architecture is strong, but without symmetry, no two arches (and there are about 20) are of equal height or breadth; the brick from which the structure is built, and the tiles, that form its roof were made here upon the grounds.

Its Business Men.

There are, in San Juan, two good hotels. The Stage House—Plaza Hotel—is presided over by J. R. Comfort, in a comfortable manner. The National, kept by Geo. Pullen, is perfectly satisfactory to all his guests. Each of the above-named gentlemen have connected with their hotels, a fine livery stable, and try to out-do each other in fine stock. The latter-named gentleman, Mr. Pullen, has several very excellent turnouts that were manufactured in San Juan by E. W. Bowman, Esq., and would do honor to be marked "Kimball" or any other first-class firm. Mr. Bowman also manufactures wagons, cultivators, harrows, gaug and steel plows. In this line, his custom extends for 30 miles around, a sufficient reputation for any mechanic. Rounds & Ainsworth are its druggists and notion venders, and stand well in the community. Mr. R., of the above-named firm was one of the largely advertised men of Chicago in its prosperous days. M. Filoucheau & Co., are numbered among its successful merchants, and are the sole agents of Theophile Vanche's native wines; the latter named gentleman is the proprietor of one of the finest vineyards in this county.

Fine Vineyard.

Mr. Vanche's vineyard is situated 12 miles east of San Juan, near San Juan Cañon; he has 40,000 vines, and manufactured last year 15,000 gallons of wine; he owns 320 acres of fine land, and every year increases his viney. The principal species that produce the best at this graperies are, the Muscatelle, Black Hamburg and Chaselas; other species are raised, but the above are the best here.

Extensive Ranches.

E. J. Breen Esq., has a very fine stock-ranch situated 50 miles south of San Juan, on the "San Lorenzo Sobrante" rancho, consisting of 24,000 acres, (5½ leagues). It is stocked with from 1,500 to 2,000 head of cattle, mixed, American and half-breeds.

Wm. H. Stone.

This gentleman's possessions are situated on the San Benito, 27 miles southeast of San Juan on the "Peach Tree" road to San Luis Obispo, it consists of 300 acres, all under fence, and is stocked with 4,000 head of sheep; a few are pure Cotswolds, the balance, mixed and ordinary kinds. He also has a fine orchard and a small viney.

Russell, Reynolds & Wood.

This firm have 6,000 head of sheep most-

ly Spanish merino ranched on government land near San Juan; also 30 head of American horses, 10 of which are valued at from \$400 to \$800 each.

Goodrich & Baker

are the possessors of about 6,000 head of very fine Merino and American sheep, ranched in the vicinity of San Juan.

Lumber.

The principal lumber dealer is W. N. Shepherd, Esq. The lumber is brought here from Aptos, Santa Cruz Co., a distance of 32 miles, and sells readily at from \$25 to \$32.50 per M. From Gilroy in my next.

L. P. MC.

Rains and Climate of San Joaquin Valley.

EDS. PRESS:—As the rain table for our portion of San Joaquin valley is now completed for the past three years, allow me to send it to you, for insertion in your columns with accompanying remarks. Though the remarks contain some facts familiar to most of your California readers, they are communicated with the hope that they may be of some interest to your more distant readers, who are seeking information about the soil and climate of our State.

Our place of observation is near Turlock post-office, Stanislaus county, which is 13 miles by the San Joaquin Valley Railroad, southeast of Modesto. It is some 45 miles southeast of Stockton, and 80 southeast of Sacramento. Taking the latitude and longitude of Sacramento as a guide, and the elevations shown by the railroad survey, its correct position is about latitude 37° 27', longitude 120° 55'; high above the sea 130 feet.

This point is in the midst of an extensive farming region, adapted (without irrigation,) only to small grains. It has been proved satisfactorily, however, that with irrigation there are but few useful plants which may not be cultivated here successfully. Our locality is on the treeless land plains, nine miles south of the Tuolumne, nine miles north of the Merced, and 10 miles east of the San Joaquin rivers, there being no native growth of trees or shrubs nearer than those streams. It is also about midway between the foothills of the Sierra Nevada and Coast Range mountains. Geologically, our soil is alluvial, bordered by tertiary to the eastward.

Our monthly rains since September, 1868, in inches and hundredths, have been as follows:

| MONTH. | 1868. | 1869. | 1870. |
|--------------------------------------|-----------|-------|---------|
| September..... | 0.00 | 0.00 | 0.00 |
| October..... | sprinkled | 1.19 | 0.25 |
| November..... | 0.95 | 0.49 | 0.32 |
| December..... | 2.83 | 0.99 | 1.89 |
| Total for each year to Jan. 1st..... | 3.78 | 2.67 | 2.46 |
| January..... | 1869. | 1870. | 1871. |
| February..... | 2.62 | 6.89 | 0.90 |
| March..... | 3.53 | 2.79 | 1.44 |
| April..... | 3.54 | 1.17 | 0.31 |
| May..... | 0.99 | 1.00 | 1.65 |
| June..... | 0.65 | 0.00 | 0.46 |
| July..... | 0.00 | 0.12 | 0.02 |
| August..... | 0.00 | 0.00 | spr'k'd |
| Total for each wet season..... | 15.11 | 8.64 | 7.24 |

A steady falling off in the amount of rain will be observed for the past three years. In '70 and '71 there was less rain than in any season since '50 and '51, in California. Still what little rain there has been was so well distributed as to make more grain than in the dry year of '63 and '64.

The mean temperature of our climate is probably not far from 66° Fahrenheit, as that is the temperature of our well water at the depth of 20 feet. The highest temperature observed in the shade at this point during the past three years was 110° in July, 1870; lowest, 16° (above zero) in December, 1868. For 1871, lowest temperature, 23° in January; highest, 107°, in June. If the mean of these four extremes be taken, it is 64°, or nearly the mean indicated by our well water. We may then, perhaps with safety, give our mean annual temperature as 65°.

All measurement of rain and temperature given above were made with standard rain gauge and thermometer, approved by the Smithsonian Institute at Washington City. We rarely have any winds except from the northwest and southeast, those from the northwest prevailing the greater part of the year. Our rains are produced in a very uniform manner. First come heavy northwest winds, which continue sometimes from two to five days, followed by heavy southeast winds continuing sometimes two or three days. Then comes the rain. In our heaviest rains the clouds move almost invariably from the south-

west. At the conclusion of each rain, in the "clearing up showers," the wind shifts first to the southwest and then to the northwest—so long as it continues from the northwest, we need look for no rain. Evidently the *rationale* of our rains is this. The heavy northwest winds rapidly fill our valley with the warm and humid air from the Pacific. Then our cold southeast winds from the snow-clad Sierras and cold tablelands beyond, condense this moist air below the point of saturation, and the surplus moisture is deposited as rain. But why our winds blow so steadily from the northwest and southeast is not so clear. It is a well understood principle of physical geography that westerly winds predominate on the western coasts of continents, because vast masses of water lie to the westward of them; but why on our Pacific coast, these assume so uniformly a northwest course, is a question well worthy of further inquiry, as is also the question, why does the wind blow so steadily from the southeast, when the reaction takes place.

Can the conformation of our vast valley of the Sacramento and San Joaquin have anything to do with it, enclosed as it is between the two great barriers of the Sierras and coast range? Is it possible that the northwest and southeast direction of our long and lofty mountain ranges can give a corresponding trend to winds which would otherwise be westerly and easterly? Which are most prevalent on the Pacific beyond our coast, west or northwest winds? If northwest, then, our inland wind currents must be a part of a great oceanic system of winds, but, if west, then must the direction of our winds be modified to a great extent by the trend of our mountain-girt coast and valleys.

With regard to our rains, from an agricultural point of view, the attention of agriculturists elsewhere will be arrested by the fact that with so small a rain-fall during the year, we can raise any grain in California.

At Sacramento, as shown by Dr. Logan, and at this point, the amount of rain for the winter of '69 and '70 was less than nine inches; for '70 and '71, less than eight inches.

Dr. Logan proves by a rain table beginning in 1849 at Sacramento, that the greatest rain-falls in our valley any winter during that time, have been from 32 to 36 ins., and that our average yearly rain-fall for 22 years is 19 inches.

As these two points have a like situation with regard to the Sacramento and San Joaquin rivers and their continuous valley 500 miles in length and from 40 to 60 miles wide, their annual amounts of rain may be taken as a type of the relative amounts throughout the State, although the rain-fall is invariably greater nearer the coast and along the foot-hills of the Sierras.

Still with less than eight inches of rain in our valley the past winter, California has raised, according to our most reliable authorities, a surplus of 100,000 tons of wheat and barley, so large was the amount of acreage sown. But the same authorities estimate that we might reasonably have expected a surplus of 600,000 tons.

So our present surplus is but one-sixth of what we might have expected an average season, and our harvest for 1871 may be recorded as yielding not more than a fifth of an average crop.

Yet, does it not speak well for the soil and climate of California that they will make grain, when the entire rain-fall for the year in our valley in less than eight inches?

Who can measure the capacities of our soil, when we have a series of wet winters and reliable system of irrigation?

J. W. A. WRIGHT.

Turlock, Stanislaus Co., Oct. 10, 1871.

THE PECAN TREE.—The *Southern Farmer*, Memphis, Tenn., says: This tree can be grown as rapidly as a hickory nut or walnut. Why not grow them as a profitable crop? We have seen trees in bearing on our friend B. Whitfield's place in Hinds County, Miss., on high upland, and certainly some of our "swamp" planters can grow them around their homesteads, have a pretty lawn, yet make money by the operation. Select best Texas pecans, largest and thinnest shells, and plant in December, January or February. By transplanting carefully every two years (cut off taproot first year,) for two or three times they will fruit in eight or ten years, and when fifteen years old will bear a bushel each; when fully matured, one or two barrels of the best, worth generally \$20 to \$30 per barrel. Plant, say thirty feet apart, and leave to your children a snug income.

FARM ECONOMY.

Theory of Fattening Animals.

An important suggestion has lately been made by Mr. Lawes, of England, on the waste of food during respiration, and its relationship to the fattening of animals. He remarks that in the case of animals fed for the butcher, the economy of the feeding process will be the greater, the less the amount of food expended by respiration, in the production of a given amount of increase; and it is equally obvious that one ready and efficient means of lessening the proportion of waste or expenditure to the increase of the products, is to lessen, as far as possible, the time taken to produce it. In other words, to fatten as quickly as possible.

Thus, from experiments made by him, he assures us that a pig weighing 100 pounds will, if supplied with as much barley meal as he can eat, consume 500 pounds of it, and double his weight—that is, increase from 100 to 200 pounds—in seventeen weeks.

He then points out that if instead of allowing the pig to have as much barley meal as he will eat, the 500 pounds had been made to last many more weeks, the result would have been that the animal would have appropriated a correspondingly larger proportion of the food for the purposes of perspiration and respiration, and a correspondingly less proportion in the production of increase. In other words, if the 500 pounds of barley meal were distributed over a longer period of time, it would give less increase in live weight, and a larger proportion of it would be employed in the mere maintenance of the life of the animal. Indeed, if the period of consumption of the 500 pounds of meal be sufficiently extended, the result will be that no increase whatever will be produced, and that the whole of the food, excepting the portion obtained as manure, will be expended in sustaining the animal's existence.

Economizing Food for Stock.

It is a gratifying fact to observe that more attention is being paid in California to save refuse feed, than has formerly been done. The present is the first season in the history of California Agriculture when any general disposition has been manifested to save and economize straw. We trust the improvement may be a permanent one, and that we shall no more see the heavens lit up, at the coming of the early rains, with immense bonfires of this really valuable product.

Corn stalks form another valuable feed product, the economizing of which is beginning to attract much attention. The matter of curing corn-stalks came up before the Santa Cruz Farmers' Club at its last meeting, and is briefly noticed under the head of Hints for the Farm on another page of the present issue, and as we have thought that some hints about

Storing Corn-Stalks

might be useful in this connection, we clip the following from a late number of *Moore's Rural New Yorker*:

Your correspondent R. P. Smith asks for the best method of storing corn-stalks. Corn-stalks should be reasonably well cured before being finally stored away. I have generally stored my own in my hay bay after the grain has been threshed that was stored on the hay. My bay is forty by eighteen feet, and runs lengthways north and south. I first tack a strip of ten feet width across the end of the bay, beginning next to the floor, and lay a tier across the 10 feet, with butts toward the floor. I then lay my next tier with butts the same way, lapping on the first precisely as you would lay shingles on a roof, and so I continue to do until I cover my space of ten by fifteen feet. You see that nothing but the butts of the stalks are visible on the last tier, the same as a shingled roof only shows the butts of the shingles. I then give a slight sprinkle of salt over these butts, say two quarts to the ton. I next begin where I left off and reverse the order, and turn the butts the other way, with the tops coming towards the floor, but shingle them on and salt as before. In this way I continue reversing each layer and salting the same until the space is finished. I then take another ten-foot space and build up as before, and so on till the bay is filled.

Now for my reasons:—Why I shingle is that the application of the salt shall all be made to the butts; its tendency is to soften them, and the cattle will work them up clean, and it is a curative or preventive of mould.

My reason for packing in separate portions of the same bay is two-fold. One reason is that there being a few feet of hay underlying the stalks. I may wish to use from it before I shall have fed out all the stalks and when one division is used up I can then get at so much of the hay as they covered, and so on. My more prominent reason for making the divisions in the stalk now is that in feeding out I do not wish to expose to the surface more than I can avoid. I wish to feed the stalks in as soft, moist state as I can. I do not wish to throw down on the floor any more than I am going to feed at the time. This may seem like being over fastidious; but experience is a good schoolmaster, and I think if your correspondent will take one lesson from it he will be satisfied.

A New Fertilizer.

Salt marsh mud has been applied to grass lands in Connecticut with very beneficial effects. There is an abundance of this material all along the Pacific Coast in this State, and throughout many of the extensive salt ponds in our neighboring State of Nevada. This material in many localities, especially where it does not contain too large a percentage of alumina (clay) is said to be quite as rich, if not richer in ammonia than common barnyard manure, and consequently it will help all farm crops.

The first experiment with this fertilizer was made in 1869, by J. D. Fish, of Stonington, Conn., and proved so satisfactory that it has since been tried on an extensive scale. Beneficial results soon appeared upon the grass where it was spread, and the first crop thereafter was estimated at one-third more than that of the previous season. The second year the effect was still more marked, and the contrast between the meadow thus treated and the adjoining lands not treated with this fertilizer was very striking, the line where the mud dressing stopped being very distinct. There can be no doubt that the numerous salt marshes and ponds of this coast, full of decayed sea weed and marine deposits, may in time restore our worn-out farm lands, and afford a cheap and excellent fertilizer at our own doors. It would be well for some of our farmers, living contiguous to salt marshes, to try the experiment on a small scale, in order to test the merits of the new fertilizer. The effect in Connecticut, was, that the indigenous grasses were well rooted and more uniform in height, while red and white clover came in more abundantly. The editor of the Carson City Register is calling the attention of the citizens of Nevada to this matter.

A SELECT LIST OF POTATOES.—The *Floral World* gives "a selection of potatoes of the finest quality in their several classes," comprising no less than thirty-two varieties. They are classified as Early Kidneys, Early Rounds, Second Early Kidneys, Second Early Rounds, Main Crop Kidneys, Main Crop Rounds, and Market Potatoes. We notice among them, of American sorts, the Early Goodrich, Early Rose, and Bresee's Prolific.

THE BANANA.—No plant yields anything like as much nutriment from the same extent of soil as the banana. Baron Humboldt estimated that it returns twenty times as much as the potato, and 113 times as much as wheat.

HORSE-RADISH FOR ANIMALS.—An exchange says: Horse-radish is an excellent condiment to mix with the food of cows to give them an appetite, and make them sleek and thrifty. It should be fed freely to all animals that are not well, and it will be of great service to working oxen troubled with heat. If given to cows in doses of a pint a day, mixed with potatoes or bran, it will prevent or relieve cows of the disease called cake in the bag. Few animals will refuse to eat it, and some will eat it greedily, as much as half a peck at a time.

ODESSA WHEAT.—E. L. Weston, Richland county, Wis., writes the *Western Farmer*:—"In the spring of 1870, I sowed 1½ bushels, from which I obtained 32½ bushels. Last spring I sowed 4½ bushels on three acres and obtained a yield of 65 bushels. For flouring the Odessa equals the best winter wheat, both in quantity and quality."

THE CORN CROP of Illinois is said to be beyond all previous experience in extent.

SHEEP AND WOOL.

INFLUENCE OF CLIMATE ON WOOL GROWING.—The climate exerts a great influence on the growth of wool, and if it has to be produced of good and even quality, this agency must be considered. The pores of the skin act as a sort of gauge for the wool, and it is therefore perfectly clear that if the sheep are so much exposed to cold and wet as to allow the skin to become chilled, the size of the wool must be reduced thereby; the extent of the damage is consequently, regulated by the intensity of the cold. For this reason, shelter from the full force of the cold winds is found to improve the staple of the wool, and prevent, in some degree, this inequality in the size of the fibre. Injury arising from the wet shows itself more generally by giving the wool more the character of hair, and thus injuring its felting properties. The excessive heat of summer has just the opposite influence. The warmth of the skin being considerably increased, the pores become more open, and a coarser wool is thereby produced. The injury thus occasioned is far from being as important as that arising from cold and wet; but still if we desire to produce wool under the most favorable circumstances, we must give shelter from extreme heat as well as from excessive cold.

FATE OF THE RAMBOUILLET SHEEP.—Dr. McClare says in the *Practical Farmer*: Among sheep most famous for beauty of their wool the Rambouillet breed, though nearly worthless as mutton, has always been distinguished. Specimens were imported from Spain by the first Napoleon, and on the farm established by Louis XVI, in Rambouillet, some 30 miles south of Paris, they were afterwards carefully crossed and reared until they reached a high point of perfection. Their wool was that known as merino, of a very fine quality, and for that reason they commanded exceedingly high prices. But now they are extinct; they have fallen a sacrifice to the exigencies of war. The Mecklinburg troops which were quartered in the town thought fresh meat for the moment, no matter of what quality, more necessary than fine wool for the future, and therefore, notwithstanding an order to send the sheep to Germany, they were condemned to appease the hunger of the soldiers. Not a solitary lamb or ram remains to perpetuate the glory of its race.

BALLS OF WOOL IN THE STOMACH.—In several of the agricultural papers there are accounts of the losses of large numbers of Leicester and Cotswold lambs, by balls of wool accumulating in the stomach. The owners may blame themselves for the losses they have sustained; for if the ewes had been carefully "tagged" this would not have happened. It is generally the practice in tagging to remove such locks of wool as are stained or likely to be stained by the droppings of the sheep, but in tagging breeding ewes in the spring the wool on or near the udder should be removed; for young lambs are apt to suck the wool in mistake for the teats, and by this means to swallow considerable portions of wool, which are rolled into a ball by the action of the stomach and in this condition are unable to pass the pylorus, that narrow valve or "gate" which prevents large substances from entering the intestines from the stomach. Breeders of long-wooled sheep in Europe know well that if the wool is not tagged from the udders of ewes in proper time, the loss of the lambs from wool in the stomach will be the result.—*Live Stock Journal*.

RHEUMATISM IN SHEEP.—This disease consists in a peculiar inflammation of the muscles of the body, very frequently causing considerable pain when they are called into action. It is usually caused by exposure to cold, and sometimes shifts from one foot to another, occasionally degenerating into a slow or chronic form, and attacking the sinews, ligaments and joints as well as the muscles. The neck and loins are the parts most frequently attacked, either separately or combined. The former affection causes the head to be crossed in a bent position, and the latter produces considerable stiffness and weakness of the loins.

The treatment should consist in removing the animal to a comfortable place, giving an active purgative, such as two ounces of epsom salts dissolved in warm water, with a drachm of ginger and half an ounce of spirits of nitrous ether. A stimulant, such as hartshorn or oil, or opodeldoc; should be well rubbed over the affected part; and if the disease assumes a chronic form, a seton should be inserted near the part.—*Canada Farmer*.

Effect of Feed on Wool.

The character of the food has much to do not only in the production of good sheep and good lambs, but also in the production of wool. A leading subject in raising wool should be to keep the staple even through its entire length, and this can be done only by feeding regularly both in quality and quantity. If sheep have been fed upon sweet nutritious hay, with occasional feeds of grain and roots, and then followed for many weeks by hay of a poor quality and the roots and grain denied them, inequality in the wool will be produced—the upper part of the staple will be light, and the lower part much thicker;—in this case the top part of the staple will break off in working it up. So it is impossible to produce good wool upon pastures abounding only in coarse, wild grasses. Good bred sheep should never be turned upon such lands, for whatever the care of breeding may be, the coarseness of the feed will produce inferior wool.

In common with many other animals—including man himself—there is always exuding from the skin of the sheep an oily substance called yolk, or gum, especially designed by nature to protect the animal from too much moisture, and to soften the wool. This oil is feebly supplied by old sheep and those fed on meadow hay or other coarse fodder, and is more abundant in vigorous and well-fed sheep. This is an important secretion, and can only be supplied by generous keeping and proper care. If these are lacking, the secretions will not take place in sufficient quantity, and sheep, lambs, and wool will be seriously affected; especially is this the case, when sudden changes occur from good feed to bad. Great care, however, should be observed, that not too much of this oil is excited, as it then wastes the powers of the sheep, and becomes expensive to the manufacturer to remove it.

Wool is composed of the best flesh-producing substances found in the vegetable kingdom. The animal has no power to change the character of those substances, and the composition of the same kind of grass is materially varied by the soil upon which it is grown; hence the character of the soil has much to do with modifying the character of wool.

It has long been known that wool raised upon calcareous or limy soil is dry and harsh, while that raised upon argillaceous, or clayey soils, is soft and mellow; cultivation will materially modify this fact.

The black-faced, heath-breed, raised upon the uncultivated moors of England, produce a short, coarse, harsh wool; but this is greatly improved when the same breed is raised where the land is cultivated, though the soil is the same, a fence only separating the two. On the other hand, if the highest bred long-wooled sheep are allowed to run upon the moors, the wool quickly degenerates, and soon becomes wild and harsh, like the low-bred type.

We may learn from these facts that the food of the sheep modifies the character of the wool, and that we can not have good wool from poor feed. The higher the type of sheep the higher must be the character of the wool. We can not escape this law. If we give poor feed, we shall have poor wool and light fleeces; if good feed, large animals, large lambs, good wool, and generous quantity.—*N. E. Farmer*.

CURE FOR CATARRH IN SHEEP.—A correspondent of the *Rural New Yorker*, E. L. Gage, in speaking of this very common and equally troublesome disease and its cure, says:—"Take a quill from a hen's wing, immerse the feather end in spirits of turpentine, run it up the nostril of the sheep, the whole length of the feather and twist it round before immersing. One application will cure ordinary cases; the second or third, at intervals of two or three days, will cure the worst."

The writer claims that by the above treatment he has cured cases of catarrh that refused to yield to ordinary treatment, and gives an opinion that catarrh is sometimes "caused more by hot, dry weather than wet"—in which he will find the majority of flock-masters arrayed against him.

TIMBER FIRES IN MONTANA.—From the *Helena Herald*, of the 6th instant, we clip the following item: Hundreds of thousands of acres of fine timber land on the hills and mountains bordering Deep Creek Valley, are being destroyed by fire, which originated, no doubt, through the almost criminal carelessness of hunters in that vicinity. The loss to us is trifling, but the value of these timber lands to future generations is incalculable.

AGRICULTURAL NOTES.

CALIFORNIA.

PREPARING TO SOW.—Farmers who lost their crops wholly or in great part this year, by reason of drouth, are so confident of plentiful rains the coming season that they are already preparing to sow on a large scale. We know, says the *Bulletin*, of instances in which the cultivators of wheat, who have made two successful failures are now putting in a quarter more breadth than ever. Throughout the State farming operations are predicated on the assumed certainty of a wet season. This, adds the same paper, is natural; but it will be wise for the average farmer not to trust too much to a single staple that is most dependent on heavy rains, and most likely to ruin him if they fail. It is to be hoped this advice will be acted upon by our farmers generally.

It is admitted on all hands that the character of the approaching winter will have much to do with the future industrial and business prospects of the State; should the season be favorable, every interest will be stimulated. Confidence will revive, property values will enhance, public improvements will be undertaken or completed that are now in abeyance, and immigration will be encouraged. No wonder that the months of November and December are awaited with anxiety as well as with strong hope.

SAN JOAQUIN.—The Millerton *Expositor*, Oct. 18th learns that the farmers in various parts of the county are now either plowing or preparing to commence operations, in order to have their ground in readiness for planting. All anticipate a favorable winter, in which event, a great impetus will be added to the farming interest in this county, and none could desire a bountiful supply of rain more than the stock-raisers, as what assists one on to success, also aids the other.

TULARE COUNTY.—Mr. Jacob B. Rumford writes from Plano to C. S. Capp, Esq., of the Immigrant *Union* as we read in the *Bulletin*, substantially as follows: Though the season here, as in many other portions of the State has been very unfavorable, still some settlers come in. In the county generally there has not been so much improvement as we had expected, because the drouth extending down has affected the grain crop upon the places where no irrigation had been provided, so only enough hay and grain have been secured to pay expenses. But this is an exceptional year, and no one seems to lose confidence, while old settlers tell of the great crops of former years.

The grain crop of this valley is sufficient for all our needs. The trees and vines on the river bottoms or where irrigated are loaded with fruit, and settlers there are never troubled with grasshoppers, but are liable to the ague; but in the vicinity of Plano [near the foot-hills] the grasshoppers have destroyed the vines this year, although they have not disturbed the grain or winter vegetables. There is plenty of government land yet unclaimed. Mr. R. thinks that considering the season all looks promising. In the foot-hills they raised good grain crops without irrigation, this year. The grasshoppers do not go into the timber belt.

KERN RIVER IRRIGATION, ETC.—A recent examination of Kern and Kings rivers was made to determine the amount of water which can be depeuded upon from those streams for irrigating purposes. It was found that at a ford near where the water would be taken from Kern river the flow was about 125,000 in. with a current of about four miles per hour. At the ford of Kings river there was found about 6,000 inches. These two rivers, at the time of the examination were at about the lowest point they have been known to reach. It thus appears that Kern river, especially, will afford an immense supply of water even at the close of the dryest season. Kern river has since increased its volume by about one-half, by some slight rains in the mountains and the decreased evaporation by reason of the advance of the season.

E. R. James, the chief engineer of the San Joaquin Canal Company has recently arrived at Bakersfield with a party of settlers, to make permanent agricultural improvements. He pronounces the soil and advantages for cheap irrigation there unequalled. All that section of country is being rapidly settled up. It is to be hoped that the next Legislature will remove the incubus of the Fence Law from the southern and southeastern sections of the State, in which case that region will increase in

population faster than any other agricultural region of California.

LOS ANGELES.—The *Star* of the 16th inst. says: We learn that upward of 200 tons of grapes were crushed at the distillery of Morrow, Chamberlain & Co., across the river, during four days of last week, and but for accidents to the machinery on Thursday, which necessitated stopping for that day, the amount would have been much larger. Brandy will be the principal article made there this season.

SAN DIEGO.—Says the *Union*: A party who recently visited the Cajon Valley brought, on their return, some stalks of tule which they found growing near the San Diego river, eighteen feet in height. Our knowledge of agriculture, gained from Horace Greeley's "What I know of Farming," prevented our being imposed upon by the statement that the tule was a peculiar kind of corn grown in the Cajon Valley.

A GOOD YIELD.—The Silver Mountain *Chronicle*, Oct. 19 says that last spring, W. P. Merrill, of Woodford's, planted three-quarters of a pound of the "Peerless" potato. A few days ago he dug them and obtained fifty pounds of as fine potatoes as a person would wish to put a tooth into. How is this for high Alpine?

COTTON IN BUTTE COUNTY.—The Marysville *Appeal* says that W. Mauson, who resides near the Butte creek ferry, on the Colusa road, has left a sample of cotton, grown on his place, at the gunsmith shop of P. George, in Marysville. The plants were put out in May last, and present a fine growth. The bolls are large and well filled, giving evidence that this valuable plant can be successfully cultivated in that locality when the proper appliances are used. From experiments made this season, we can reasonably expect to see this a cotton-growing State before many years have elapsed.

MAMMOTH GRAPES IN YUBA.—H. C. Jones, who resides in the foothills above Bangor, has left at the office of the Marysville *Appeal*, a bunch of grapes upon which is one grape that measures four and a half inches in circumference. It has precisely the shape of a tomato, and appears to be the result of a number of grapes growing together, although the outward contour is uniform.

HUMBOLDT COUNTY TOBACCO.—C. Hanson, says the Humboldt *Independent*, has sent to this office samples of tobacco raised at his place at Yager, this season, which are certainly superior to anything of the kind we have seen grown in Humboldt county. We are informed by him that the samples are but an average of his crop which he says when cured will make about 600 pounds. He only planted this as an experiment but intends next year to raise a much larger crop.

BOUNTIFUL CROPS.—The crops in Eel River Valley, says the Humboldt *Times* of the 19th inst., are yielding bountifully, but occasionally we hear of instances where the yield has been enormous. A friend has just informed us that Col. Frost has harvested from six acres of land 696 bushels of oats—116 bushels to the acre. From a field of thirty acres, J. M. Richardson has harvested 3,030 bushels of oats—an average of 101 bushels per acre. The oats are of the ordinary variety, and were measured, not weighed, as they came from the threshing machine. Other crops in that locality are turning out prodigiously. These crops are located on "Nigger Head" prairie. We learn further that Charles J. Barber has raised 100 bushels of wheat to the acre this year from his farm at Fern-dale.

SANTA BARBARA ALMONDS.—The Santa Barbara *Press* says: A very pleasant sight greeted our eyes the other day at Captain Mayhew's place. Several gunny-sacks full of fresh, clear hulled almonds stood there beside the house, only a part of this year's crop. If any one has a lingering doubt in his head in regard to the almond crop, by all means let him go out there and be convinced. But the day of doubt is past. Only the lazy drone who has spent his money for whisky, or idled his time away in some unprofitable venture, is yet disposed to carp at the almond crop. These nuts are each a rebuke to his thriftlessness. Let all such go their way. They are safe authority on the best methods of killing time and spending money to their own hurt. All a thrifty man needs to know is that it is only four years since the ground was first plowed where these almonds grew.

CANAL AT SAN BUENAVENTURA.—The Ventura *Signal* of Oct. 14th says: It affords us great pleasure in being able to announce the speedy completion of this splendid water work. The brigade of Celestials

made their first appearance around the brow of Loma de Cruz in front of town on Wednesday. This canal will be a lasting benefit to our town, and its completion an epoch in its history. It will not only furnish an abundant supply of clear, fresh, healthy mountain water for irrigating, and domestic purposes, but a power for all kinds of mills and machinery. The fall from the main canal in front of town, to the main plateau, is about 180 feet; and the angle of the hill is so steep, about 40 degrees, that but little expense will be required to use it on a turbine or other wheel with tremendous power.

SAN LUIS OBISPO—POMOLOGICAL.—The *Standard* of the 15 inst. says: Mr. J. P. Andrews, who resides a short distance from town, showed us, on last Wednesday evening, a limb of an apple tree, two feet and eight inches in length, having on it forty full grown apples. He said that the limb had as many more but they had dropped off by handling it. The limb was from a tree grown in his orchard, and had been broken off by the weight of the apples on it. Who can beat it.

LARGE ONIONS.—Mr. J. L. Oiler, of Moro Creek, brought some onions into San Luis Obispo, a few days since, ten of which weighed 12½ pounds. The largest one of the lot measured 20¼ inches in circumference. They were raised from the seed. Mr. Oiler is an experienced horticulturist as well as stock-raiser.

MONTANA.

Agricultural and Mechanical Montana Fair.

Our special correspondent having visited the Second Annual Fair of the Montana Agricultural and Mechanical Association, held at Helena, sends us the following notes:

The grounds of the Association embrace about 83 acres located on Ten Mile Creek about two miles from Helena. They have been greatly improved since last year by the erection of new buildings and the enlargement of stock sheds. A fine race course is laid out and was in perfect order. Upwards of \$6,000 were given away at the late Fair as premiums. Races were run every day in which the best stock in the Territory participated, making a good display which was well attended. Montana can boast of her stock exhibit, all that was shown looking in good condition, and of fine quality.

The Agricultural Department

was well represented from all parts of the Territory. The squashes, potatoes and pumpkins were of very large size. One Chinese cucumber was on exhibition which was 6 feet long. The weather during the time the fair was held was quite favorable being warm and pleasant.

The Address.

The annual address was delivered by Rev. Dr. L. B. Wolfork, who has recently become one of the citizens of Helena. The address was able and comprehensive. We give place to a few notes.

In referring to Montana, he said he should not only speak of the Territory as she now is, but as she is destined to be in the future. To his mind, few countries present such a future as Montana. Nature seems to have especially designed that she should be one of the most favored parts of the earth. Water in abundance, and enough for all purposes, mountains just high enough to catch the winters, but not so much so as to be forbidding, bleak and sterile; a soil that cannot be surpassed for easy working and abundant produce, and a climate which while it astonishes scientists, brings to us all the beauties of an Italian locality. We owe this mild temperature to the warm moisture from the Pacific Ocean, and to the depression of our mountain ranges.

When the Mormons first left the States, it was with the intention of going to Vancouver Island. Had they started there, they would never have gone by this beautiful country; and had they stopped here their future would have a grand one.

Mining interests seem just now to be the more prominent one of our territory. Our miners do not go down to primal bed rock, they only scratch over the surface. The speaker a few days ago found persons working on bed-rock far below that first worked to, and making \$100 per day to the hand. At the present rates for labor and commodities, none except the richest mines, can be developed. When a railroad reaches us, all these leads can be profitably worked and become an immensesource of revenue.

Farming

is yet only in its infancy. Our farmers as

yet know nothing about economizing water. The day will come when every acre of our valleys lands will be in cultivation, and all the water which falls in our boundaries or runs from our mountains will be carefully utilized.

For stock purposes, there is certainly no country anywhere which possesses such advantages as Montana. Her stock of all kinds keep fat at all seasons of the year. But wool-growing is destined to be the great business of Montana. In the States, sheep have to be fed at least five months of the year. In Texas and California, the sheep are subjected to diseases of various kinds. Here, such diseases are almost unknown. But not only sheep, but the Alpaca of Peru and the Cashmere goat will also one day become great items in our industry.

We shall not send our raw material to market, for we have as fine water power as is in the world, and at some day in the future this is certain to become the great wool-manufacturing district of America.

Save the Timber.

To accomplish the future of Montana, we must stop the fires in the mountains. Every tree we have is a representative of dollars and cents. Their destruction is decreasing the supply of snow, diminishing the grass and causing the streams to gradually become dry. We must stop these fires in the mountains, or, as in other countries, they will be of incalculable disadvantage to us. Let us continually plant trees, rather than destroy them. Others are doing it, let us profit by their experience. In the future of Montana, we can see trees covering our valleys, foot-hills and mountains; a large city has already grown up at the falls of the Missouri; manufactures are scattered along our water-courses; miners are bringing precious metals from the bowls of the earth; and everywhere there is a people free, prosperous and happy, and accomplishing in their lives the purpose for which God designed them.

COLORADO.

THE BOULDER CO. FAIR.—Four bright and beautiful days, says the Central City *Register*, of Oct. 13th, made the complement of the time allotted to the Boulder Fair. These days were the fit representatives of Colorado's prevailing cloudless skies, as the stock and products collected, were of the resources of the country. The present, as compared with the two former expositions, mark the rapid progress of the leading industries, stock-growing, agriculture and mining. Laying foundations and building up homes in a new country, if laborious, is yet a pleasant and exciting work, and a multitude of such people assembled, make just such a hearty, happy, demonstrative crowd as only frontiers can show. Besides numerous fine turn-outs from abroad, we counted 200 farm-wagons and family carriages at one time on the grounds. On the afternoons of the third and fourth days we judged there were not less than 2,000 persons present, including fully two-thirds of the whole rural population of the surrounding country.

The baby-show was a success. No matter about the names of the babies. The happy mothers were Mrs. Lyman, Mrs. Cluster, Mrs. Angove, Mrs. Wilson, Mrs. Beckworth, Mrs. Burke, and another mother, whose name we did not get. The Examining Committee were Messrs. E. H. Andrews, D. J. Lykens and N. M. Howard—three joyless bachelors. The Committee were required to guess at the weight of the babies, and this involves a deal of handling of the young ones, and inquiring of the mammas respecting treatment, feed, etc. The effect of this, on the Committee, is a decided turn of thought. The truth is that this is a sly trick of the Agricultural Society to cure confirmed cases of bachelorhood, it having been found that there is no occasion to appoint the same person twice on such a committee. The ornamental blue ribbon—badge of the first premium—was left to flutter on the baby of proud Mrs. Burke.

In general, the Fair was better than either of the preceding exhibitions, the grain and vegetable departments, especially showing marked improvement.

POPULATION OF OREGON.—The first census of this State was taken in 1850, and then it had a population of only 13,954. Ten years later, in 1860, it had increased to 52,465, or nearly four times the population of that of 1850. The last census taken in 1870, gives the State a population of 90,923, but this is perhaps beneath the actual number. Judging from these figures, ten years hence the population may be expected to be over a quarter of a million.—*Herald*.

GWYNNE'S DRAINAGE SIPHON.

The drainage of lands by means of pumping apparatus is a branch of engineering very fully developed in many countries of Europe; but in this it has not yet received the attention that at no very distant day must be accorded to it. The engraving represents a siphon—so-called—constructed by Messrs. Gwynne & Co., of London, and specially designed for drainage operations of minor or moderate magnitude, such as may be eventually needed in some of our numerous reclamation projects, or for other purposes in this State.

In the engraving, *B* represents a siphon of ordinary construction, but having a flap-valve, opening inwards or upwards, attached to the inner end, and which prevents the water flowing back again. At the other end of the siphon another valve is fixed which opens outwards, and which is shown in the engraving closed by the chain, *C*. Attached to the siphon is one of Messrs. Gwynne's centrifugal pumps, having a separate suction pipe and valve dipping into the water, and its discharge pipe secured to and emptying into the siphon, *B*. To start the siphon, the pump is put in motion by the portable engine, the air-cock is opened, and as the siphon fills with water, all the air is quickly displaced. The air-valve is then closed, and on the chain, *C*, being unfastened, the outer valve will open, and the siphon will discharge water in the usual way and at the ordinary velocity. By keeping the pump at work, however, an increased discharge of water is obtained through the siphon, the increase being in proportion to the velocity with which the water is discharged by the pump. This increased quantity is additional to the actual water forced into the siphon by the pump. By this arrangement the siphon can be made to act even when the water on each side of the bank is at the same level. One pump may be made to charge or fill a number of siphons if placed near each other, and, instead of the portable steam engine, the pump itself can be driven by hand, horse, or any other power, or even by a turbine driven by the discharge from one of the siphons, where the difference in the level of the water justifies such an arrangement.

For keeping low-lying lands, for example those inclosed by dykes, from the accumulation of water from rain upon them, a power to work the apparatus will of course be required proportionate to the rain-fall. A few statistics, therefore, of the rain-fall of different countries will give an idea of the variations in the power required in various regions to maintain a pumping apparatus in operation for a given area. The greatest rain-fall in England in 24 hours may be taken at three inches, and the annual rain-fall at from 20 inches to 70 inches, and the mean may be taken at 42 inches. For London, 24 inches; Rome, 36 inches; Paris, 21 inches; Liverpool, 34 inches; Kendal, Westmoreland, 60 inches; St. Petersburg, 16 inches; Upsal, 26 inches; India—in the plains—from 50 inches to 70 inches, and in the hills, 130 inches. At the Cape, 23 inches; Tasmania, 25 inches; in the Southern States of North America, about 46 inches. The greatest evaporation in 24 hours in India is about 0.56 inch, and the mean daily evaporation 0.22; the mean daily vaporation in California would be about the same amount.

In England it is assumed that for the drainage of fens and low-lying districts an engine of from twelve to sixteen horsepower is sufficient to keep dry a thousand acres of land, provided the lift does not exceed ten feet. Our climate being more dry than that of the British Islands, this estimate would doubtless be found within

bounds for similar operations in this country.

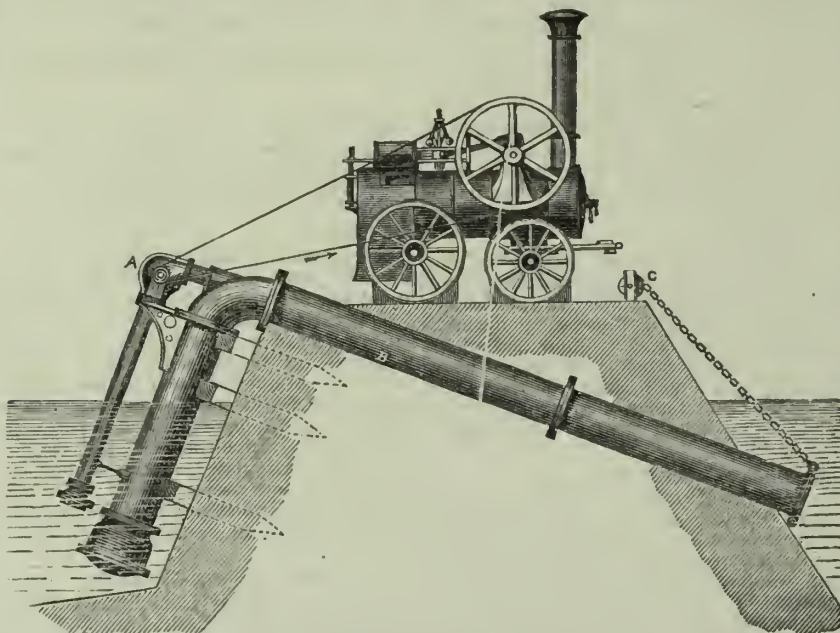
The land reclamation movements now going on in this State, will eventually call for something of this kind. Indeed, the city of Sacramento has already expended large sums of money for drainage purposes, with a result which we should suppose might have been accomplished at a much reduced cost by the employment of the principle here described. We are indebted to the *American Artisan* for the above illustration.

Ravages of a Vine Insect in France.

The Insect of American Origin.

The *Var*, a paper published at Draguignan, Department of Var, gives the following important information relative to the serious ravages of the *philaxera vestratrix* [Phylæras Vastator?] which for about two years has been extending its devastating march over the vineyards of the South of France:

The *philaxera* pursues its ravages. After having destroyed the greater part of the vineyards of Vaucluse and the Crau of Arles, it advances toward us year by year.



GWYNNE'S DRAINAGE SIPHON.

The department of Languedoc is invaded at several points. In several communes of the district of Aix—especially at Lambeoc, Rognac, Mille and Eguilles—they are beginning to recognize the destructive effects of the terrible enemy of the vine. Its presence was noticed last year. This year the evil is much more perceptible. It is, then, evidently approaching us, and, according to all appearances, judging from its progressive march, it will not be long in reaching us. Up to the present time no efficacious remedy has been discovered. Lime, tried at the very beginning, then inundations, produced but very uncertain effect. Coal tar and carbolic acid cause the death of the worm more surely, but their employment is not practicable and is costly. There is yet another preservative remedy, to tear up vigorously the sick plants, and even not spare some sound ones in its neighborhood, as a physician extirpates cancer.

We hear a confirmation of the above reports from a French gentleman, who has just returned to this State from his native land, who also informs us that this destructive grape insect is of

American Origin.

and that it was imported into France from the United States, in the attempt to introduce there the Catawba grape.

The insects attack the root of the vine which at once withers, killing the whole plant. A vine that has been attacked can be pulled up with ease, owing to the destruction of the root. The grape culture has not only been nearly ruined over an immense extent of country in Southern France, but there seems no prospect of staying the further ravages of the insect over still other departments than those mentioned.

This is a blow all the more severe from the fact that almost the whole dependence of the people there is upon wine raising. Even if attention is devoted to other branches of agriculture, the loss will still

be greater than the people can bear. They are only prepared for wine-making, and all the necessary implements would have to be purchased, while all the capital invested in the wine-making business and appliances, such as tubs, presses, casks, etc., would be a dead loss.

If any of our readers have any facts bearing upon this subject, especially with regard to any mode of getting rid of the insect, or its habits, through a knowledge of which such an end might possibly be attained, we should be happy to hear from them.

The Air Treatment of Wine.

We give place with pleasure to the following communication which explains itself:—

NEW YORK, Oct. 11, 1871.

EDS. PRESS:—In your issue of June 24, under "Ageing Wine," an article designed to call public attention to a recent discovery, patented by your agency, you mention the process of the d'Heureuse Air Treatment, and state that by the same, "air is forced up through the wine from below, and the ageing is thus hastened." This illustration of the air-treatment—though no doubt unintentionally—misrepresents it, and in correction you will permit me to have attention called to the substance of various California publications on the sub-

But any process whatever requires the observance of certain essential conditions, in absence of which the results will be either negative or doubtful; and the question of the practicability involves the facility of securing the necessary conditions.

By reading the article alluded to in the Press in connection with the above, it will be seen that our error consisted in supposing that the air was applied to the wine after it had undergone its first fermentation, instead of to the must or freshly expressed juice of the grape.

NOTICES OF RECENT PATENTS.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

PRUNING SHEARS.—John F. Creighton, Placerville, Cal. This invention relates to that class of pruning and picking shears, in which a spring or yielding holder is employed in connection with the shears for the purpose of seizing the severed limb or twig and preventing it from falling to the ground after it is cut off. The improvement consists in the employment of a supplementary punching tool, which is secured to one side of the shears so that it will be operated in unison with the cutting jaws of the shears and by the shear handles, so as to pinch or grasp the secured twig or limb at the same time that the shear blades cut it.

IMPROVEMENT IN THE CONSTRUCTION OF VESSELS.—Adam Wingard, S. F., Cal. The object of this invention is to provide certain improvements in the construction of the hulls of sea-going and river vessels in order to admit of their attaining a high rate of speed, and at the same time preserve the harmony of outline, with great carrying capacity.

The scow or flat bottom is employed to give the advantage of a high rate of speed, and the defects of this construction are remedied by a peculiar construction of the stem and stern which are formed into two cutwaters or prows, and two sterns so that with great width, fine lines are preserved where the vessel enters and leaves the water.

REVOLVING DIE FOR CUTTING SCREWS.—John Carroll, Oakland, Cal., assignor to self and Chas. Wilkinson of same place. The object of this invention is to provide a die for cutting screws, which by being made revolving in a case, can be instantly adjusted for any one of a series of different sizes, such as are used for gas-fitting, for which the invention will be found particularly applicable. The device consists of a hollow case of metal, in the form of a short cylinder, having two sockets for levers in opposite sides; within this case is a short hollow steel cylinder, the sides of which are pierced with as many holes as are convenient for the introduction of different sizes of pipe, and these holes serve as guides to the dies for each size, which are situated opposite to their respective openings, and are formed in the same cylinder. Holes are made through the outer case, and any sized die can be brought opposite the holes for use. For the two largest sizes, the dies are placed in the axis of the die cylinder, and have suitable guides.

STEALING AN OCEAN CABLE.—It is said that the Chinese pirates have fished up and carried away a long section of cable lately laid down between Shanghai, in China, and Yokohama, in Japan. This almost gives countenance to the suppositions thefts by Chinamen of deep-rooted beets, parsnips, etc., which the jokers tell us those persevering thieves secure by pulling them through to the other side of the earth from the deep, rich soils of our Western States.

A PROMISING YOUTH.—They have a boy at Antioch City, 16 years old, who measures six feet three inches in his slippers, and weighs 205 pounds. If that boy keeps on growing to the ordinary age of maturity, he will be able to look over the Kentucky giant.

THE 54th volume of the illustrated *Phrenological Journal*, commences with 1872. Published by S. R. Wells, at \$3 a year, in advance. Clubs of ten or more, \$2 each and an extra copy to Agent.

USEFUL INFORMATION.

Hints to Carpenters.

The *American Builder* believes that there is much labor in vain in the ornamentation of houses, especially wooden houses. It tells carpenters, before making and fixing a quantity of ornament, to be sure that it is good, and goes on to say: There are many things that you do, and many others that an architect—if there be one in the case—will often instruct you to do, which are neither tasteful nor in good construction. Of course there are exceptions. You may be sure of this, however, that the more elaborate with ornament and carving a building is, the more you are going on the wrong tack. Real beauty consists not in added features but in the body of the work itself, and this fact should always be borne in mind.

The principle of carving wood for outside ornament is wrong. We would not say it is to be discarded altogether, but, still, we have that leaning. Cut work, and that of the simplest kind, is the best. Complexity in forms and ornament are mostly bad. It not only requires unnecessary labor to produce, but there is actually vexation in the mind of the spectator. When people see a thing that is crowded with intricate work, that it takes them trouble to make out, it is tolerably good evidence that such work is not exactly what is wanted.

Give great attention to the sizes and proportion of doors and windows, and pay especial attention to the construction; and never, if possible, conceal its principles, but let them form the basis of ornament. Moldings, cornices and miters are not to be put in exposed positions. It is surprising what an excellent effect can be produced by cutting, even with little or no molding or carving about a ship. How plain, yet how beautiful it is, simply because of its proportions and because—it looks like work.

How Samuel Williston Made His Fortune.

The first manufacturer of buttons in the United States was Samuel Williston. While he was dragging along as a country store-keeper—his eyes having failed him while studying for the ministry—his wife bethought her that she could cover by hand the wooden buttons of the time, and thus earn an honest penny. From this the couple advanced in their ambition until they had perfected machinery for covering buttons, the first employed for the purpose in the United States. From this sprang an immense factory, and then others, until Samuel Williston made half the buttons of the world. His factories are still running at Easthampton, coining wealth for the proprietor, and known to every dealer in buttons the world over. He is now between seventy and eighty years of age, is worth five or six million dollars, and has given \$400,000 to Easthampton, for a seminary and for churches, \$200,000 to South Hadley Female Seminary, and \$200,000 to Amherst College, besides lesser gifts.

TO PREVENT THE MOULDING OF GUM ARABIC.—It is well known that solutions of gum arabic soon become mouldy, and eventually sour, and finally lose all adhesive properties. To prevent this has been customary to use creosote, carbolic acid, corrosive sublimate and other poisonous, disagreeable agents, the cost of which, or their unpleasant character, has deterred persons from using them. We now see it stated that sulphate of quinine will serve the same purpose, without itself imparting any bad odor. The addition of a solution of a few crystals of this salt to gum arabic will prevent the formation of mould quite as effectually as carbolic acid, and by analogy it is safe to suppose that the same salt could be used in writing ink, mucilage, and possibly glue.

SMOKERS will be pleased to learn that large deposits of meerschaum have been discovered in Patagonia. Heretofore the supply of this material for pipes has been limited, the clay being found in Turkey, Greece, Asia Minor and the shores of the Mediterranean, in small quantities. A great many people fancy that their pipes are real "hydrous silicate of magnesia," that being the scientific name for the genuine meerschaum, when they are made of common clay colored, or of bread, and are foul with the fortieth smoking. As meerschaums are the healthiest pipes possible, the Patagonia discovery is to be rejoiced at.

What are Rose Diamonds.

Rose diamonds are so called on account of the form in which they are cut, and were until lately but little used, except in the smaller sizes, to place in fittings where the space or depth was too small to admit of a brilliant being employed. The rose-cut diamond has however lately again come into fashion, and the prejudice which has been entertained against them arises in a great measure from the ignorance of the purchasers, who, when told that such a stone is a rose, imagine it to be no diamond, being unaware that roses and brilliants are identically the same stone cut into different forms.

The rose-cut diamond is very lively, and makes a great display at a small cost, roses being manufactured from pieces of "rough," which from their thinness are incapable of forming brilliants. They are infinitely more lustrous than those stones called spread brilliants, which, from their want of depth, are lustreless and glassy. The smaller sizes are sold in packets containing generally 500, and have to be handled with great care, as the breath suffices to blow them away, and the delicate edges are very liable to break. They have sometimes been made so small as to require 1,500 to weigh one carat; and, when the number of facets on each is considered, the delicacy and minuteness of the work may be imagined.

Roses are still sometimes used for watch jewellery, but rubies are now preferred. Large rose diamonds fluctuate considerably in value, and their price can never be depended upon. They are not much esteemed in Europe, and it would be impossible to give any precise value, although they are supposed to be worth as much as brilliants of the same weight.

The small rose diamonds, if under 40 to the carat, are worth 47 cents to \$2 25 each; and above that size and up to one carat, they fetch from \$59 to \$72.18 the carat. In the Green Vaults at Dresden, and in the treasure chamber at Vienna, may be seen some very large and fine rose diamonds.

Queer and Vicious Fish.

Among the vast multitudes of living beings which inhabit the waters of the globe, there are things beautiful, things ludicrous, and things horrible and fearful, beyond the power of pen to describe. Among the latter class may be included the scorpion fish, which, upon the authority of Dr. Francis Day, is so much feared and dreaded, that fishermen will cut the meshes of their nets, and lose their entire catch, rather than risk a wound from it. The fish inflicts its injuries by its dorsal fin, which is serrated, and until this is broken by means of a club or stick, no one acquainted with the character of the fish will venture to touch it with the hand. Another fish, called the crocodile fish, also inflicts frightful wounds with its spine. A fish is said to infest the mouth of the Amazon, which, although scarcely larger than the minnow of our fresh water streamlets, is so ferocious in its attacks upon the human body that it is dreaded even more than the crocodiles. The name of this little fish fiend is "candirou," and when it seizes hold of the flesh, which it never fails to do when occasion offers, it holds on with such a tenacity that it cannot be removed without tearing out a mouthful of flesh. Another fish of South American rivers is the "payara," which carries in its lower jaw two fangs, by which it cuts a gash as smoothly as could be done by a razor. The "caribe" is the vampire of South American streams. It scents blood so keenly, that the least scratch on the person of the bather invites its fierce attacks. It has sharp triangular teeth of great power, and, though no larger than the perch, is an object of dread to all who know its fierce character.

RED NOSES—The French journals say that the Parisians are jubilant over the late discovery of Dr. Bernsie for the relief of red noses. By means of electricity he has restored a lady of rank to happiness, and changed her nose, a blooming rose, into a delicate lily.

THERE is on exhibition at the Institute Fair, in New York, a stone-center emery wheel, which is said to weigh two thousand pounds, the largest emery wheel ever known to be made.

THE most perfect lubricator is said to be pure plumbago, manufactured by the American Graphite Co.

GOOD HEALTH.

Take Care of the Liver.

A liver secretes each day about two pounds of bile, which contains a great amount of waste material taken from the blood. When the liver becomes torpid or congested, it fails to eliminate this vast amount of noxious substance, which therefore remains to poison the blood and be conveyed to every part of the system. What must be the condition of the blood when it is receiving and retaining each day two pounds of poison? Nature tries to work off this poison through other channels and organs, the kidneys, lungs, skin, etc.; but these organs become overtaxed in performing this labor, in addition to their natural functions, and cannot long withstand the pressure, but become variously diseased.

The brain, which is the great center of vitality, is unduly stimulated by the unhealthy blood which passes to it from the heart, and it fails to perform its office healthfully. Hence the symptoms of bile poisoning, which are dullness, headache, incapacity to keep the mind on any subject, impairment of memory, dizzy, sleepy, or nervous feelings, gloomy forebodings, and irritability of temper.

The perspiration becomes so irritating and poisonous that in connection with the vitiated blood, it produces discolored brown spots, pimples, blotches and other eruptions, sores, boils, carbuncles and scrofulous humors. The stomach, bowels, and other organs, cannot escape becoming affected, sooner or later, and costiveness, piles, dropsy, dyspepsia, diarrhoea, and many other forms of chronic disease, are among the necessary results.

How important then that the closest attention should be paid to the condition of the important organ named. Whenever any of the above symptoms are observed, go to your physician at once and get his advice.

Bad Blood.

Draymen about breweries drink quarts, if not gallons of beer every day, and by the time they are forty-five, the commonest scratch of a pin on the hand will not get well for months; if the skin is abraded or scraped off by a misstep or other accident, a running sore is sometimes established for the remainder of life; it is because the blood is bad; it is poor, too thick, and even poisonous.

Persons have poor blood when it is observed that scratches and cuts and bruises are a long time in healing; and this should be a friendly warning to correct that condition of things, because it shows there is but little vitality, little stamina, and disease of some kind is impending, especially of the typhoid type, and recovery will be slow, doubtful, and in many cases not possible.

The first step to be taken in all cases to get rid of bad blood, is to spend a large portion of daylight out of doors in remunerative labor or agreeable employment, or journeying, on horseback being the best; this helps nature to work the bad blood out of the body, and at the same time gets up a good appetite and a vigorous digestion, which makes a poor blood to supply the place of the bad, and the man is well, without an atom of medicine or a dollar's expense.—*Hall's Journal of Health*.

THE USE OF BUTTERMILK.—Persons who have not been in the habit of drinking buttermilk consider it disagreeable, because it is slightly acid. There is not much nourishment in buttermilk, but the presence of the lactic acid assists the digestion of any food taken with it. Buttermilk is an excellent substitute for fruit in Winter, and is also very good in the spring toward keeping off that unpleasant complaint known as spring sickness. The Welsh peasants almost live upon oat-cake and buttermilk. Invalids suffering from indigestion will do well to drink buttermilk at meal times.

BURNS AND SCALDS.—Every family should have a preparation of flaxseed oil, chalk and vinegar, about the consistency of thick paint, constantly on hand for burns and scalds. A noted retired physician states that he has used it in hospital and private practice for the past forty years, and believes that no application can compare with it, as regards relief of pain and curative results.

CHILDREN of a weak and scrofulous habit should be allowed all the white sugar they desire. It improves digestion and strengthens the blood.

Something About Teeth.

Why do some people's teeth come out more readily than others? The reasons for this are probably many. About the middle of last century Peter Kalm, a Swede, visited America and wrote sensibly about what he saw. He observed a frequent loss of teeth among settlers from Europe, especially women. After discussing and rejecting many modes of explanation, he attributed it to hot tea and other hot beverages; and comes to a general conclusion that "hot feeders lose their teeth more readily than cold feeders." Mr Catlin, who some years ago had an interesting exhibition of Indian scenery, dresses, weapons, etc., noticed that North American Indians have better teeth than the whites. He accounts for the difference in this strange way, that the reds keep the mouth shut, whereas the whites keep it open. The teeth, he says, require moisture to keep their surfaces in good working order; when the mouth is open, the mucous membrane has a tendency to dry up, the teeth lose their needed supply of moisture, and thence come discoloration, toothache, tiodoloureux, decay, looseness, and eventual loss of teeth. Mr. Catlin scolds the human race generally for being less sensible than the brutes in this respect, and the whites especially in comparison with the red. We keep our mouths open far too much. The Indian warrior sleeps, hunts and smiles with his mouth shut, and respires through his nostrils. Among the virtues attributed to him to closed lips, one is excellent—when you are angry, keep your mouth shut.—*Chambers' Journal*.

FEAR OF DISEASE.—The fixed idea of having heart disease, or other complaints, is a very common one. Physicians can easily tell whether the heart is right, just as you can hear whether a clock is right by its tickings and beatings. There are other very sure symptoms, well known to the profession. Many persons also fear they have a cancer in the stomach or liver; or a tapeworm, or some other dreadful malady; but generally these fears are the result of a disordered imagination, and groundless. People do a great wrong to themselves and their friends by giving way to and dwelling upon such ungrounded fears.

LEAD IN WATER.—The question is often asked:—"How small a quantity of lead in water will produce serious consequences?" According to the *Herald of Health* the one hundredth part of a grain to the gallon, when used for a long time, has been known to produce paralysis. As a general rule, however, such a small quantity does not produce any perceptible disturbance to the system. It is dangerous, however, to drink water, for any length of time, with one-twentieth of a grain to the gallon.

DEATH FROM MULBERRIES.—Five persons have recently been found dead in Mississippi under mulberry trees. Death in all these cases has been attributed to eating mulberries which have been impregnated by locusts. In the stomach of one colored boy, says the *Woodville Republican*, was found a quantity of mulberry seeds and the locust eggs. Two children in Williamson County are also reported to have died from eating plums similarly impregnated.

MEDICAL PROPERTIES OF COCOANUT MILK.—In India, according to a writer in the *London Pharmaceutical Journal*, the milk of the cocoanut is employed in debility and incipient phthisis, as a substitute for cod oil, with excellent results. It is also used, instead of cow's milk, in tea and coffee. In large doses, it acts as a substitute for castor oil.

WIND IN THE STOMACH.—A physician, in a very sensible article on bathing, recommends a more general use of warm baths instead of the syrups and worse nostrums for the wind in the stomach, which is thought to be so often the cause of the worrying restlessness of the very young.

TO DISGUISE CASTOR OIL.—Rub up two drops oil of cinnamon with an ounce of glycerine and add an ounce of castor oil. Children will take it as a luxury, and ask for more.

TO PREVENT DISCOLORATION FROM BRUISES. Apply repeatedly cloths wrung out of hot water or the tincture of arnica.



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SAN FRANCISCO:

Saturday, October 28, 1871.

Our Weekly Crop.

In the furtherance of our plans of stock improvement, our farm captain has this week given us a lesson on Selecting Cattle, accompanied with a portrait, whereby we are enabled to more fully understand the technicalities of this important farm duty. He has also set a good example for others in adopting the principle of a variety of stock on his farm, and in that direction introduces us to the novelty of A "Turkey Ranch," which he assures us is a profitable speculation. We hasten through the Library to read the latest Notes of Travel in Monterey County, which our enterprising correspondent has furnished us; while another writer sends us some valuable information about the Rains and Climate of the San Joaquin Valley, a matter which just now very much interests us.

After scanning some brief Hints on Farm Economy, where we are taught the Theory of Fattening Animals and Economizing Food for Stock, and visiting our sheep ranch, where we learn all about the Effect of Feed on Wool, and many other matters of interest about raising sheep, we pass to the examination of our weekly Agricultural Summary.

The approach of the rainy season reminds us of the possibility of a surplus of water upon the low lands of our farm; and to guard against any damage therefrom, our foreman has set up one of Gwynne's Drainage Siphons upon our reclamation levee, and calls our attention to the Ravages of a Vine Insect, and the Air Treatment of Wine. Our attention is next called to some Notices of Recent Patents, in connection with which we gather up some Useful Information, a portion of which we apply to the betterment of our Health.

At this point, having received a very polite invitation from our old friend Roberts, we break away from home scenes, and in company with a large number of State dignitaries, prominent farmers and large land owners, start on a short Trip to the Tules, to view the extensive improvements now going on, chiefly under the direction of Mr. Roberts, for the reclamation of this valuable portion of the agricultural lands of the State. The examination of the embankments there being thrown up against that which is usually our friend, but which may on some sudden emergency prove our direst enemy, naturally calls attention to similar works which we are sometimes called upon to throw up against another kind of an enemy, and we here present a set of Intrenching Tools, with which such work may be most conveniently accomplished. By their side we have placed some simple instruments, which every farmer should have constantly at hand to relieve his Choking Cattle, should one of his animals chance to need such assistance.

Our long tarry in other quarters renders it necessary that we should make but a brief visit to the Home Circle; which, however, we find as full and happy as usual. The School-teacher's Story is an excellent one, and more than pays us for the visit.

Turning once more to our stock herd our attention is called to a mysterious and Fatal Cattle Disease, which puzzles the doctors and all others which have witnessed its sudden and terrible effects; then with a brief reference to some Singular Floral Transmutations, we retire for this week.

INSPECTION OF THE TULE LANDS.

We last week stated that the RURAL Press was represented among the invited guests, on a steamboat excursion, among the islands and tule lands forming the great deltas of the Sacramento and San Joaquin rivers, to examine their soil, climate, and general resources, and advantages, and to inspect the works being constructed for their reclamation. We also promised our readers that we would note down whatever of genuine interest was to be seen and learned, and publish it for their benefit. We now propose to redeem that promise. As many of our readers have probably never given much attention to the subject of the tule and overflowed lands of our State, we will first very briefly give them a general idea of the location and character of these lands, and the means adopted for their reclamation.

The two great rivers above named, and all their large tributaries, have a strip of tule land on each side of them, stretching from their entrance into the valleys, to the points, where the latter empty into the former and from thereon, until the former reach and lose themselves in the bays leading into the Pacific Ocean.

Originally these rivers are supposed to have flowed through the lowest points in the valleys; but the annual overflows to which they are subject have gradually deposited debris and sediment on their immediate banks until all through the upper portions of the courses and until they approach their mouths, these banks are from ten to twenty feet higher than the lands, from one-half mile to three miles back, so that all our navigable rivers are literally "highways of commerce." Into these low lands or basins thus formed empty numerous creeks from the foothills of the Sierra Nevada and Coast Range of mountains, and the overflows of the rivers at high stages of water keep them full during the wet seasons, and generally well into the summers. Hence the soil becomes wet and swampy, and all vegetable growth coarse and rank.

To this coarse grass the Indians gave the name of "tule," and this name has hence been applied to the lands themselves.

As the Sacramento and San Joaquin rivers approach the straits and bays into which they flow—only a few miles apart—their banks gradually become lower and lower and the distance back to the edges of the tules becomes less, until finally the rivers themselves seem to break up into a great number of smaller rivers or water courses called sloughs.

These sloughs stretch out to the right and left, dividing the tule lands into a great number of islands, of all shapes and sizes until hundreds of thousands of acres are thus cut up and surrounded by a system or net work of navigable water courses. The islands thus formed, like the banks of the main rivers, are generally higher next the water's edge than in their centers, and from similar reasons; but these banks are generally but little above high tide at the low stage of water in the summer season. The waters of the rivers, however, having here so many channels through which to flow, are comparatively but little affected by a rise which overflows the banks of the main rivers, and floods the whole country above. Hence it is comparatively a much easier task to keep the waters of the sloughs from overflowing these islands than it is to keep the waters of the main rivers higher up the country, from overflowing their banks and flooding the tule lands we have described as stretching along on either side of them.

The Important Fact,

so potent to all now, has only been discovered and practically appreciated by the people of this State, after an experience of nearly twenty years, derived from an almost constant yet fruitless and costly effort to

reclaim the tule lands along the main rivers of the State.

For the discovery and practical demonstration of this valuable truth we are indebted to a few humble farmers, who some twelve or fifteen years since settled upon Sherman island, and who have since that time pretty effectually reclaimed the whole island from overflow and brought it into a good state of cultivation. In doing so they have acquired for themselves and their families a good competency, if not a fortune. While these men were struggling along from year to year, alternately cultivating their crops, and working on their levees.

George D. Roberts,

a gentleman who is now the great leading spirit in nearly all the swamp land reclamation enterprises of the State, was a practical and successful miner in Grass Valley, Nevada county. Having met with some severe losses in his mining operations, he was looking about him for some other and more safe place to invest his money. By accident his attention was called to the operations of the farmers on Sherman Island. He went personally to investigate the whole subject for himself, and having observed the productiveness of the soil, and the feasibility of the reclamation of all the islands similarly situated, he at once commenced buying up these lands and urging his friends to do likewise.

He soon succeeded in forming what is known as the Tide Land Reclamation Company composed of some of the heaviest and most enterprising capitalists in the State. For the last two years he has been perfecting plans of reclamation, organizing labor and machinery for their completion, and calling the attention of the public to the great value of these lands, and to the additional wealth and prosperity their reclamation and cultivation would bring to the State. For this latter purpose he conceived and organized

The Excursion to the Tule Lands,

to the valuable incidents and lessons of which we will now call the attention of our readers. The invited guests were about eighty, consisting of business men, capitalists, and representatives of the press; mostly from San Francisco, Sacramento, Santa Clara, Yuba, and Nevada counties.

The party left Sacramento at about 8 o'clock on Friday, the 20th inst., on the Steamer Victor, Capt. Sommers. After stopping at two different points on the river, we arrived at R. Kerchival's, at the head of Grand Island at noon.

This island lies directly in the forks of the Sacramento river, and about 25 miles south of Sacramento. It is the first of the system of islands formed by the breaking up of the river into sloughs, as above described. It is bounded on the east by what is called the Old River, and on the west by a branch called Steamboat Slough. It is favorably situated for catching the debris and sediment floating down the river, and hence, as might be expected, the banks are higher and more firm than those of the islands further down. The strips of land between the immediate banks of the river and the tule toward the center of the island, is quite wide and for four or five miles down on either side is occupied by settlers most of whom have very fine farms in a good state of cultivation. The climate here is excellent, being a happy medium between the windy region further south and the oppressive heat further up the river.

The country for six miles above this point and as many miles below is without exception the best for peaches in the entire State. The early and late Crawford peaches, which at Sacramento are hardly worth raising, here grow and ripen in the greatest perfection and make the most valuable market peach we have. The plum, apricot and nectarine also flourish in great perfection here. Apples and pears do well, and grapes grown here, though of but little value for wine, command the highest prices in the market for table use, being very large, well colored and of most excellent flavor.

We went back from the river about a mile here for the purpose of examining the soil where a deep ditch was being cut; this ditch being the upper end of the canal which is to be dug through the centre of the island for drainage purposes. We found the surface, about a foot deep, to be a fine yellowish

sediment of tule deposit; then to the depth of about four feet more, the soil was a mixture of loam and clay, chequered with streaks of decayed vegetable matter. We did not see the soil deeper down, but were apprised by Mr. Kerchival who had the ditch dug, that immediately underlying this clay was a strata of some four or five feet deep of almost unmixed decayed vegetable matter, having much the appearance of a rotten dunghill. This island is about twelve miles long, averages about three miles wide, and contains about 17,300 acres; of this about 7,000 acres, mostly next the river banks is owned by settlers. About 2,000 acres, running diagonally across the island from water to water is owned by Wm. Gwynn and Henry Miller of Sacramento, and the balance, the centre portion, is owned by George D. Roberts.

It is estimated that \$6.30 per acre will defray the entire expense of the work necessary to keep the water off this Island. The levee around the Island, will be about 29 miles long; about 20 miles of which is already completed and the balance will be done in five weeks time. The work is let to Chinamen by the job, at from 12 to 17 cents per cubic yard. There are over five hundred Chinamen now at work on the levee. The average width of the base of the levee is 30 feet; it is 6 feet high. The width of the top is three feet, and the inside slope is 1½ to one, the outside is 2½ to one. The earth is taken from the outside or next the river. All the sloughs making into the island are substantially dammed, and provided with flood-gates, so arranged that the gates close at high tide and open at low tide; so that while the water is prevented from passing in, all the seepage water runs out. The same gates will answer the purpose of irrigation, should it ever become necessary.

Next Year's Crop.

It is the intention of the owners of the tule land on this island to have it all cultivated and cropped the next season. They propose to lease it on shares for a term of three years. The tule is now being burned off of some portions of it, and all will soon be in condition to burn. After the tule is burned, it is expected that most of the land on this island, will require to be plowed, before sowing. On the islands, lower down, such as Sherman and Twitchell, the surface being composed mostly of decayed vegetable matter, when once dry, will buru down until the fire reaches the water, and is stopped by it. On Grand Island, as we have stated, this same vegetable matter is found in most places, some five feet below the surface, having been covered by late deposits of sediment which is gradually forming into loam and clay.

The sediment and clay, however, instead of raising the surface of the land equal to the thickness of their deposit, seem by their weight, to have sunk the vegetable matter nearly that much into the water except near the banks where the soil is thickly studded with the roots of trees which seem to have held the soil to its normal position. This fact secures to this island all the advantages of water near the surface, and at the same time it has a soil rich in the elements of production and most certainly so in those of durability.

Late Potatoes.

While our attention is on Grand Island we will state that on our return trip, when most of the party had gone to San Francisco and Sacramento on the regular boats, the Victor ran up through Steamboat Slough and stopped at a ranch on this island some two miles from its head, in order to let us see some late potatoes growing on the tule land.

They found here a field of fifteen acres of potatoes growing most luxuriantly, the bulbs being quite plentiful in number and generally of fair size, some being as large as a man's fist. They were of the Pigeon Point red seed. The tulo which was very heavy and tall, had been cut down in June, and after drying had been burned. The ground was then plowed and harrowed well, and plowed and harrowed the second time. The potatoes were planted between the 26th of July and the 2d of August. Had Early Rose seed been planted, the crop would have been ripe, and could have been dug some time since.

Andrew's Island.

On the east and southeast of Grand Island, and separated from it by the Old River lies Andrew's Island. This is as long as Grand Island, but not more than a mile wide on an average. Some four or five farmers in the center of it, have clubbed together and built cross levees above and below them and next the sloughs on either side, and have produced this season most excellent and satisfactory crops of wheat, barley, corn, potatoes and other vegeta-

bles. No general work for reclaiming this island has yet been commenced but we understand there soon will be.

Still to the southeast of Andrew's Island, are two other long irregular islands, Tyler and Staten, containing about 12,000 acres each, and separated from Andrews Island by the Georgiana Slough, and by the north fork of the Mokelumne river. We did not visit these islands, but they are said to contain very valuable tracts of land and susceptible of easy reclamations which is already commenced.

[Concluded next Week.]

A Hint to Authors and Advertisers.

The following, from a Los Angeles correspondent, so clearly sets forth the want of local publications on this coast, that we publish it entire. We have urged several practical orchardists and other cultivators to write upon the specialty of California Culture; but as yet no one has responded affirmatively, although we are in hopes some one will do so before long. The usual reply is—"I am too busy and otherwise profitably employed:"—

EDITORS PRESS:—Would you have the kindness to inform me through your excellent paper, which would be the best book to secure, on the Cultivation of Fruit, in California. The RURAL PRESS we find to be exceedingly valuable, each number containing information worth more than the subscription price; but I have searched its pages carefully, hoping to find the advertisement of some California nurserymen, but have found none. It is not strange that enterprising nurserymen in the "East" have their advertisements in our Pacific Coast RURAL, while not one of our own people so engaged advertise there. I could name at least a dozen men in this region who have already sent orders East for trees. The orange and walnut crops will be abundant this year. J. M. A.

We know of no book devoted to any of the special branches of agriculture as practiced on the Pacific Coast; and we fully agree with our correspondent that it is a little strange that our California nurserymen take so little pains to make their business known to the public on this coast.

NO USE FOR SQUIRREL SKINS.—A subscriber writes us from Sacramento, enclosing a clipping from a newspaper in which it is asserted that there are parties in this State buying squirrel skins for the manufacture of gloves, etc. We have already, several weeks ago, pronounced the item without foundation. Glove-makers have no use for squirrel skins; they are too small for such or any similar manufacture. Farmers will do well to keep on killing the squirrels; but they will lose their time when they preserve their skins in the hope of a sale for the same.

ASSIST OUR OWN.—We have already made reference to the distress and suffering in some portions of the San Joaquin valley, where the farmers have lost their crops for two successive years. We regret to state that later reports only intensify those first received.

The past few days have indeed been severe on these tillers of the soil, and their condition is such that it is but an act of charity that some steps should be taken to alleviate their immediate and pressing wants. The suffering that now exists throughout the valley is really pitiful, many not having the necessities of life or the means to procure any for their starving families, and they are compelled to subsist on squirrels, in the absence of larger game. If it is not possible to divert, in that direction, some of the many thousands lately collected here for the sufferers in Chicago, where it is not now needed, immediate steps should be taken to secure at least one or two hundred barrels of flour, with a proportionate supply of corned beef and vegetables. We must do something for those people. They will be no better off until the incoming of next year's crop, and if unaided will suffer incredible hardships during the approaching winter.

INTRENCHING TOOLS.

In an article in the *Engineer* which refers to the growing improvements in musketry fire, and the consequent imperative demand in military operations for such shelter as can be obtained by pits and trenches, there is a description, which we transfer, of a combined spade and pick invented by Captain Stewart Harrison, of the First London Engineers. The tool itself is represented in Fig. 1, in which it will be seen that the pick and spade are hinged at their junction, so that when the spade is in use the pick lies in a groove in the handle of the tool, surrounded and secured by a telescopic sheath. When the pick is to be used, it is turned on the hinge till it and the spade are at right angles to the

FIG 1

AS A SPADE

AS A PICK

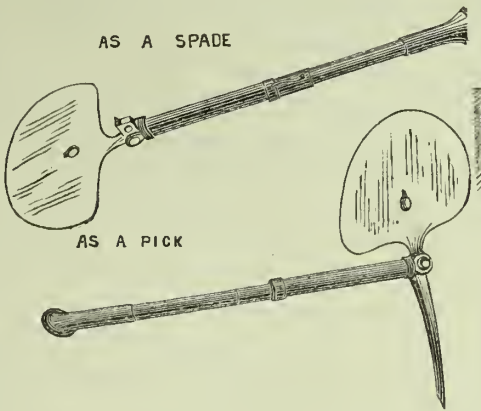


FIG 2

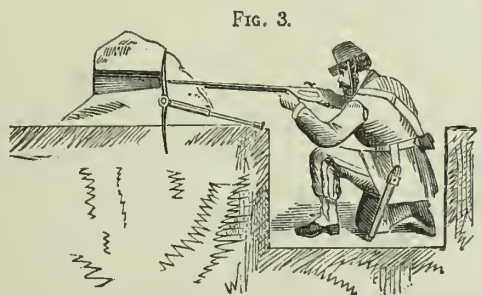


FIG. 3.

handle, in which position it is also secured by the telescopic sheath. The tool is also intended to serve as a mantlet in combination with the earth thrown up. This use is illustrated by Figs. 2, 3 and 4.

Embrasures are prepared in the earth-work by building up in it funnels made by rolling up a fabric composed of cloth with strips of wood attached, or made up of telescopic sections of zinc or thin iron, like a pocket drinking cup without a bottom. In rear of this funnel or embrasure is placed the spade, the pick being thrust into the ground. The spade is pierced with a circular hole through which to fire, and, in fact, it plays on a small scale the part which the large iron-plated shields are intended to play at Gibraltar, Portsmouth and elsewhere.

Reference is made in the same article to the spade-bayonet of Lieut. Rice, U. S. A., which was submitted to and approved by the military board that assembled a few months ago at St. Louis, Mo., and of which we also give an illustration in Fig. 5. Capt. Harrison's tool is thought to be too cumbersome to be carried by troops, and Lieut. Rice's bayonet is not considered equal to work on hard ground. We think the latter objection more pertinent to Capt. Harrison's, which must be very liable to give out at the joint if subjected to hard usage.

CHOKING CATTLE AND HOW TO RELIEVE THEM.

There are few things more vexing to a farmer than to find some fine steer or cow with an apple, a potato, turnip, or the like, stuck in its gullet. There is an animal that has cost much money, and several years of patient waiting, to raise, and now it is choking and groaning, and in danger of sudden death. And when dead, the carcass will be next to useless. What can be done to save this suffering and waste of good beef. To begin with—

Prevention is Better Than Cure.

Apples and roots that are likely to choke cattle should not be fed whole, but ought to be crushed or sliced. Root-slicers can

FIG 4

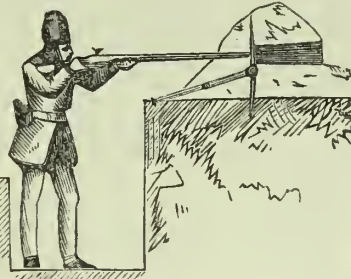
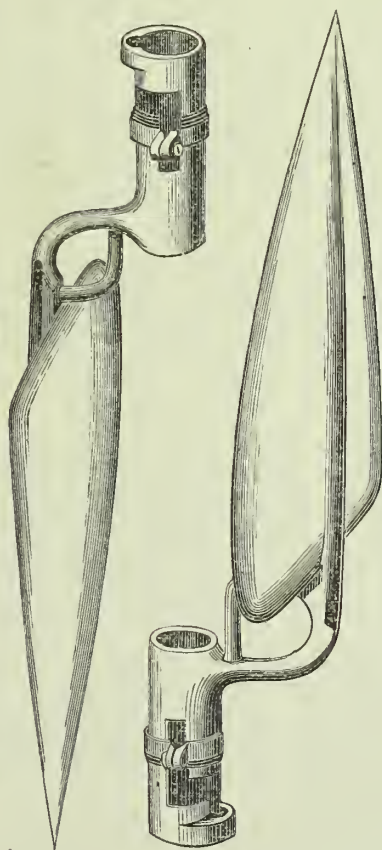


FIG 5



her nostrils, so as to smother her. She will make violent efforts to get free, and very likely the obstruction will pass up or down the gullet. Sneezing, caused by a liberal pinch of snuff, will often clear the animal's throat.

If a probang must be used, a good and very cheap one may be made of 3/4-inch rope, which should be three feet or more in length. The end that is to go down the gullet should be made firm and smooth by winding with twine to within an inch or two of the end, loosening the strands at the end and turning them back and fastening, so as to form a sort of knob. (See Fig. 1.) The rope should be hung up by one end to keep it straight, and greased before using. A piece of moderate sized rubber tubing, such as is used for garden hose, would make an excellent probang, in some respects superior to a solid one.

Mr. C. L. Flint, in his work on "milch cows and a dairy farming," recommends a dose of a pint of olive or linseed oil to be poured down the throat before using the probang. He also says that the pressure should be gentle and steady, and if the object is passed on into the paunch by pressure from a flexible tube, the tube should be allowed to remain a short time to prevent the escape of gas which, in case of choking, often accumulates to a distressing extent. The same author prescribes,

Fig. I.



in bad cases of swelling, from choking, or in hoove, two ounces of liquid ammonia, in a quart of water, given every quarter of an hour, or three drachms of either the chloride of lime or the chloride of soda, in a pint of water. These act as remedies by neutralizing the carbonic acid gas which

Fig. II.



causes the distension of the paunch. No solid food should be given for several days after a severe case of choking, as it may produce inflammation of the gullet.

The Animal Should be Gagged

before the hand of the operator is risked between its jaws. This is easily accomplished by means of a round stick of wood, which is placed between its teeth, and held in place by cords from the ends, which are tied to the horns. A better gag can be easily made of good inch board, with a hole left in the middle to admit air freely, and for the probang, if it is used. (See Fig. 2).

Sometimes simply gagging the animal will relieve it, as the efforts which it makes to free itself of the instrument, may result in throwing up the cause of its suffering.

A simple gag and probang, such as we have described, should be kept at hand by every stock-owner. Though they may never be needed, they cost but a trifle and may save the farmer fifty or a hundred dollars, and will at least mark him as one who is merciful to his beast, as well as careful of his property.

THE TULE LANDS.—We devote a large space, to-day, to a description of the improvements now in progress upon our tule lands. The subject is of so much importance that we shall prepare a map of the lands described, showing the improvements, etc., which will be given next week, in connection with the conclusion of the account of our late trip among them.

FROGS.—A correspondent is desirous of hearing of some place, in this State, where frogs may be found in goodly numbers and size, during the dry season. If any of our readers know of a good place for frogs, they will please communicate the fact.

THE SOUTHERN DISTRICT FAIR.—Preparations are being made on a large scale at Los Angeles for the first Annual Fair of the Southern District Agricultural Association, which is to be opened in that place on Monday next.

ORANGES.—The Los Angeles orange crop is said to be in excellent condition.



City Railroad-Cars.

Never full; 'pack 'em in;
Move up, fat men; squeeze in, thin;
Trunks, valises, boxes, bundles,
Fill up gaps as on she tumbles:
Market-baskets without number,
Owners easy, nod in slumber;
Thirty seated, forty standing,
A dozen or more on either landing.
Old man lifts his signal finger;
Car slacks up, but not a finger;
He's jerked aboard by sleeve or shoulder,
Shoved inside to sweat and moulder.
Toes are trod on, hats are smashed,
Dresses soiled, hoop-skirts crashed.
Thieves are busy, bent on plunder;
Still we rattle on like thunder.
Packed together unwashed bodies,
Bathed in fumes of whisky-toddies.
Tobacco, garlic, cheese, and beer
Perfume the heated atmosphere;
Old boots, pipes, leather and tan,
And, in luck, a "soap-fat man."
Aren't we jolly? What a blessing!
A horse-ear hash, with such a dressing!

THE SCHOOL TEACHER'S STORY.

You ask me why I am opposed to flogging children at school. I will tell you. It makes them hate their teacher when they ought to love him. Children are little grown folks, if you will accept the expression; and the big grown folks, they always remember, even if they forgive, a blow. When I was a boy I happened to get soundly thrashed at school pretty often, and I do most frankly acknowledge that I dislike to this very day every teacher that ever whipped me. But I have a story to tell, from which you may draw your own moral.

I taught a school once myself. It was down in a rural district of Pennsylvania. The school was a small one, and the scholars were mostly under twelve years of age. One, however, was thirteen—a pretty brown-eyed girl just as smart and clever as she could be, and withal mischievous as a mouse. Her name was—well, they called her Joe—Joe Milroy. Her parents were poor, but highly respectable, living on a little forty-three acre farm. Joe was the most unruly girl I ever saw. You couldn't keep her out of mischief. I hated to whip her, she was getting so much like a woman in size; and I didn't like to expel her from school; for she always knew her lessons by heart.

But, sir, she kept the whole school unruly. A little boy would throw paper wads across the floor, and of course I'd whip him.

"Joe Milroy throws'm, and ye don't lam her for it," the urchin would be sure to say.

A little girl would laugh out loud, and when I asked her what she was laughing at, she'd be sure to say.

"Joe Milroy made such a funny picture on her slate!"

What was I to do? Matters got worse and worse. Finally I went to Mr. Milroy, and kindly but frankly told him all about the way things were going on, and asked him what course I had better pursue.

"Whip her, sir," said he emphatically, "whip her good! Make her mind up just the same as t'other children. That's what I say. I want my girl controlled at school; I do."

Well, I went back to my school fully determined on bringing Joe Milroy to the mark. An opportunity was not long wanting. I kept a sharp lookout, and presently I saw Joe make a great funny picture, and throw the paper clear across the room to some little boys. The urchins began giggling and tittering forthwith. I took my whip firmly in my hand, fixed my eyes sternly on Joe, and walked up to her. She saw I meant something, and her pretty, roguish face grew pallid in a second. I did not say a word, but raised my whip and gave her about ten severe lashes.

"Oh, sir, oh!" she cried at first; then closing her lips till they pressed into each other, she looked me almost fiercely in the eyes till my blows ceased.

After that I had no more trouble in my school. All went on well to the end. Joe knew all her lessons, but was quiet and reserved. The last day came and I gave the children a "treat" of candy and raisins. When Joe's share was given to her, she pushed it aside, and would not taste it. I

knew by this that she was brooding over her late chastisement. I wanted to part friendly with all my pupils, so I went and sat down by Joe and said,

"What's the matter, Joe?"

She looked up with great calm eyes. I started in spite of myself. These were no longer the eyes of a little girl. They were the eyes of a woman.

"I never will forget your ungentlemanly cruelty—never, never!" she said sternly as a man might have spoken.

I tried to reason with her, telling her I had done it for her own good; but she only shook her head and compressed her lips.

Well, I went away from that neighborhood, never to return. Fortune favored me and I became wealthy. Ten years had made me a wiser man as well as a richer one; nor was I unacquainted to fame.

In a center city whither I had gone to deliver a course of lectures to a young men's society, I got acquainted with a young woman, Josephine Milroy by name whose father was a millionaire. With this young lady I fell desperately in love. Oh, sir, she was superbly, regally beautiful. She was finely educated, graceful, and the finest singer I have ever heard in private. Her conversational powers were charming, and with all this she was tender and womanly.

I pressed my suit, never dreaming of the little girl I had whipped in the country school-house. She gave me her heart, and all the wealth—woman's affection—it contained; and I—I gave her my very soul.

How happy I was only a true lover who feels the glorious influence of a gifted woman's power, can know.

One evening my affianced bride and I took a stroll together in the park of the city. We sat down on the grassy brink of a miniature lake, in the center of which a great sea monster in bronze threw up strong jets of flashing water, while all around him lay green, flowery islets basking in the rich glories of an early June day.

We talked of our love and our coming nuptials—of the sweet, bright future that lay beyond. Oh, it was a blissful dream, a tender trance, a thrilling interlude between the stern realities of life. I looked into the soft dark eyes of the glorious woman beside me, and my heart swelled with pride and thankfulness. Truly I was blessed beyond the common lot of man!

What demon wandering over the earth entered me and carried my memory back to the little log school house in Pennsylvania? What tempted me to speak of little Joe Milroy? Ah, who can tell? No sooner did I mention that school-house and some of its associations than I saw a pallor chase the flush of love from my companion's face. Her lips grew cold and firm her eyes flashed.

"Are you that school teacher—that miserable wretch whose memory I love to detest?" she asked almost fiercely.

I saw my dreadful doom at once. I fell at her feet, and plead as only an eloquent, despairing man can plead, when the wild, sweet dream of his love is passing from his vision forever.

"No, sir," she said firmly, almost cruelly. "I can never marry the man who beat me. My heart burns within me whenever I think of those shameful blows. No, sir; no, never,—I never can, I never will marry you!"

What I said, I cannot remember. I plead wildly, despairingly, groveling there at her feet.

It was all useless. She was as cold and relentless as she had been warm and affectionate.

We parted forever. And now, sir, it seems to me that of the acts of my life there is but one I would wish to blot out, and that is the act I once thought so just and beneficial. Oh, if I could suffer a red-hot dagger through my heart for every blow I gave her, I would gladly bear it, if it would give me back the pure love of her glorious womanhood.

Now that I can look coolly back over the past, there are many things in the simple but bitter story of my love that seem strange. The father of Jessie Milroy was one of the fortunate men whom the discovery of oil made suddenly rich. He had become a great financier and a successful speculator. His daughter and I met, after the ten years of our separation, under such vastly different circumstances that neither recognized the other until that fatal evening. Sometimes I still hope she will repent; but I have no proof that my hope has reasonable foundation. I will wait.

In France there are over three hundred colleges, no one of which will admit women students.

Happiness in Wedded Life.

Women, if they would rule men's hearts, must deserve, and unwittingly exact, the approval and admiration of their minds. Alas! for that variability of temper which goes up like a rocket and comes down like an aerolite; a miracle of smiles, or a weeping Niobe; a driving tempest, or a flashing sunbeam. A never-varying, bland, lullaby sort of a temperament is most sincerely to be deplored; sparkle, buoyancy, and even an irrepressible dash of riotous fun, now and then, are most healthful and appetizing. But mere feminine diplomacy should forbid the not infrequent exhibitions we have, of an odd devetailing of winsome caresses and childish poutings on the part of the wife, and so should the whimsical interplay of foolish indulgence and enervating neglect on the part of the husband be abandoned. Principle, not caprice, should be the energizing and controlling motive. The most charming photographic views of wedded life are to be taken from the higher mounts of vision—those of settled design and steady purpose. There must, of course, be mutual concessions, and mutual agreements to disagree. There is a way to win by commanding, and to command by winning. For the wise interblending of self-centered strength and a prodigal wifely affection, she may achieve marvels of wifely management. The husband may unconsciously lead, but never essay to drive. At the same time, we are frank enough to confess that there are too many *femmes coquettes* who need the flaming sword of an archangel to awe and repress them. There is no such thing as conquering them by love; as well prate of love to a blackbird. But if kindness fail, severity will fail all the more surely. Flies still continue to take to molasses more than to vinegar. The lineal descendants of Balaam's garrulous "charger" hold fast their propensity for offensive disputation, and are more gently amenable to a tempting display of luscious fodder, than to the dreary phenomenon of a curiosity-plaited leather, however ticklish to the external senses that may be.—From "Ideal Womanhood," in the Overland.

DO NOT RUN MUCH FROM HOME.—One's own heart is of more worth than gold. Many a marriage begins with a rosy morning, and then tall away like a snow wreath. And why? Because the married pair neglect to be as well pleasing to each other after marriage as before. Endeavor always to please one another. Lavish not all your love on to-day, for remember to-morrow like-wise, and day after to-morrow too. Consider, ye daughters, what the word *wife* expresses. The married woman is the husband's domestic faith; in her hand he must be able to entrust the key of his heart as well as the key of his pantry. His honor and his home are in her keeping—his well-being is in her hand. Think of this! And you, ye sons, be faithful husbands and good fathers of families. Act so that your wives shall esteem and love you.

SUNSHINE AT HOME.—Many a child goes astray, not because there is a want of prayer and virtue at home, but simply because home lacks sunshine. A child needs smiles as much as flowers need sunbeams. Children look little beyond the present moment. If a thing pleases, they are apt to seek it; if it displeases, they are prone to avoid it. If home is the place where faces are sour, and words harsh, and fault-finding is ever in the ascendant, they will spend as many hours as possible elsewhere. Let every father and mother, then, try to be happy. Let them talk to their children, especially the little ones, in such a way as to make them happy.

THE TRUE GREEN OLD AGE.—I know not indeed a more beautiful spectacle in the world than an old man who has gone with honor through all its storms and conquests, and who retains to the last the freshness of feeling that adorned his youth. This is the true green old age; this makes a southern winter of declining years, in which the sunlight warms, though the hearts have gone. Such are ever welcome to the young—and sympathy unites while wisdom guides. There is this distinction between respect and veneration—the latter has always in it something to love.

A HAPPY WOMAN.—Is she not the very sparkle and sunshine of life? A woman who is happy because she cannot help it—whose smile the coldest sprinkle of misfortune cannot dampen. Men make a terrible mistake when they marry for beauty, for talent or style; the sweetest wives are those who possess the magic secret of being content under any circumstances. Rich or poor, high or low, it makes no difference; the bright little fountain of joy bubbles up just as musically in the heart.

Young Folks' Column.

A Ladder with Twenty-four Rounds.

What the Boys May Do With It

A Scotch duke, walking in his garden one day, saw a Latin copy of a great work on mathematics, and thinking it had been brought from his library, called some one to carry it back.

"It belongs to me, sir," said the gardener's son, stepping up.

"Yours!" cried the duke. "Do you understand geometry and Latin?"

"I know a little of them," answered the lad modestly.

The duke, having a taste for the science, began to talk to the young student, and was astonished at the clearness and intelligence of his answers.

"But how came you to know so much?" asked the duke.

"One of the servants taught me to read," answered the lad. "One does not need to know anything more than the twenty-four letters in order to learn everything else one wishes."

But the nobleman wanted to know more about it.

"After I learned to read," said the boy, "the masons came to work on your house. I noticed the architect used a rule and compasses, and made a great many calculations. 'What is the meaning and use of that?' I asked, and they told me of a science called arithmetic. I bought an arithmetic, and studied it through. They then told me there was another science called geometry. I bought the books, and learned geometry. Then I found there were better books about these two sciences in Latin. I bought a dictionary and learned Latin. It seems to me we may learn everything when we learn the alphabet."

It is, in fact, the ladder to every science. But how many boys are contented to waste their time at the first two or three rounds, with not pluck or perseverance enough to climb higher. Up, up, up, if you want to know more, and see clearer, and take a high post of usefulness in the world. And if you are a poor boy, and need a little friendly encouragement to help you on, be sure, if you have a will to climb, you will find a way, just as this gardener's son found it afterwards in the Duke of Argyle, under whose patronage he pursued his studies, and became a distinguished mathematician.

An Unruly Boy and What He Did.

An unruly boy, 14 years old, employed in a mill, in Salem, Mass., was impudent to his employer recently, and quit work. Of course he ought speedily to have come to grief. He wandered down upon the wharf, as unruly wilful boys are apt to do, and, perhaps, it would not have been strange had he been drowned, and thus served as a fearful warning to all his fellows in the mill when they felt inclined to be unruly and wilful. But somehow it happened that this boy (his name, by a singular chance, is Melody—at least, it is so printed in a Boston paper), saw a commotion on the wharf opposite, and learned that a little boy four years of age had fallen overboard and sunk. Young Melody stripped and plunged into the water, swam across the stream a hundred feet, and saw the little boy at the bottom. Melody at once dived for him and brought him to the surface, and by the aid of some men, placed him on the wharf. Medical aid was summoned, and after some time the boy was restored. Young Melody then coolly jumped back into the water, swam across, put on his clothes and went home.

HENRY CLAY AS A BOY.—The eloquent statesman once said: "I owe my success in life to one single fact, namely; that at an early age I commenced, and continued for some years, the practice of daily reading and speaking the contents of some historical or scientific book. These off-hand efforts were sometimes made in a cornfield; at others in a forest; and not unfrequently in some distant barn, with the horse and ox for my only auditors. It is to this that I am indebted for the impulses that have shaped and moulded my entire destiny."

A LITTLE SHAVER on his first visit to the country, told his mother that he did not like the milk. Why? asked his mother. Because, it is so yaller that it looks dirty.

Show may be easily purchased, but happiness is a home-made article.

DOMESTIC ECONOMY.

Coffee Should be Drank Without Milk.

According to the Société Impériale et Centrale d'Agriculture de France, coffee is an excellent aliment which suits most ages, temperaments, and constitutions, and of easy digestion when its consumer is in good health; it is also known that black coffee without milk is a stimulant and tonic whose intervention is advantageous after a repast to facilitate digestion.

Milk is undeniably wholesome and nutritious. Milk and coffee taken separately, not to interfere with each other in the stomach, are excellent; but, what is remarkable, when mixed and taken together they constitute a new composition which is absolutely indigestible.

This requires an explanation: The skin of animals is a nitrogenous matter which by boiling becomes a digestible product; if it be put in a fresh condition in contact with tannin it is converted into leather, when it may no longer be turned into alimentary aliment; no amount of boiling will do it. Gelatinous substances, put in contact with the tannin, are affected like the skin; they unite with it and acquire the property of resisting the effect of the gastric juice.

Now the infusion of coffee is rich in tannin, hence its mixture with milk has the immediate result of transforming the caseous part and the albumen that it contains into a kind of leather, undecomposable and indigestible, like that made in a tan pit. The composition thus produced remains in the stomach until new aliments come to displace and force it through the lower orifice of the stomach into the intestines. The sugar and bread with which this mixture is charged digest all the same, as well as the gelatinous substances, if the coffee is not used in such quantity as to render them inert.

The stomach is thus ballasted with a kind of thin milk, in which the gastric juice that it secretes constantly is quickly diluted in weakening its stimulating action on the membranes from which it comes, and the result is that the want of food makes itself more slowly felt; for this want, in general, is only developed when the stomach is empty. The consumer is thus deceived by the feeling of his stomach.

The use of this mixture is sometimes attended with disagreeable results. Those who are not accustomed to it frequently undergo a purging through indigestion, and those who are, often eventually have inflammation of the stomach or one of the maladies to which this organ is subject under the abuse thus put upon it. Women especially, from their delicate organization, suffer in the consumption of coffee with milk. To dissuade them from its use it would be well to make them understand that coffee with milk is nothing in reality but *leather soup*.

TO CLEAN CARPETS.—Shake it well; tack it down, and wash it upon the floor; the floor should be very clean; use cold soap suds; to three gallons add half a tumbler of beef-gall; this will prevent colors from fading. Should there be grease spots, apply a mixture of beef-gall, fuller's-earth, and water enough to form paste; put this on before tacking the carpet down. Use tacks inserted in small leather caps. In sweeping carpets use a soft brush. When it can be done, use straw matting (not straw) under the carpets; they last much better. Cover bricks with carpeting; put behind doors to prevent the knobs of locks striking against walls.

FRENCH MODE OF FRYING POTATOES.—Cut them in whatever shape you wish, above a bowl of cold water, so they will drop into it. Then drain and wipe them dry. This must be done quickly, so as not to allow the potatoes to become reddish. Have a coarse towel ready, then turn the potatoes into a colander, sprinkle salt on them, and serve hot. If you wish them light or swelled, leave the potatoes in the colander only about half a minute, then put them back in the very hot fat, stir for about a minute, and put them again in the colander. If the fat is very hot, when dropped into it for the second time, they will swell.

CLEANING TINWARE.—An experienced housekeeper says the best thing for cleaning tinware is common soda. She gives the following directions:—dampen a cloth and dip in soda and rub the ware briskly, after which wipe dry. Any blackened ware can thus be made to look as good as new.

Horse Meat in Paris.

Horse meat was largely used in Paris several years before the late siege of that city. M. Duroix states that in July, 1866, horse meat was allowed to be sold publicly in Paris. Six months after this, its official introduction, not more than a dozen horses were slaughtered each week. Two years later about eighty were killed every week, and about fourteen butcher shops were engaged exclusively in its sale in the capital. From investigations made by Paris authorities, the horse yields a percentage of meat to his live weight of 65 to 70, which is more than that obtained from the ox. The price of the meat varies according to the pieces—tenderloin, at the time alluded to, was one franc per pound; and pieces of the neck and breast, five sous per pound.

In 1868 there were in Paris four restaurants of horse meat, and five establishments where sausage was made from horse flesh, and sold at half the price of other sausage.

The provinces were even then beginning to follow the example of Paris in slaughtering and selling horse meat. There was much less prejudice against its consumption than when it first commenced.

The horses slaughtered were generally old and worn out, but free from internal disease. When reasonably fat the meat was sold in pieces like beef; when not fat it was used for sausages. When very thin the meat was not offered for sale in any form. The authorities exercised vigilant supervision over the meat as regards quality and wholesomeness.

THE ARTICHOKE.—This vegetable is rarely seen on the American table, but is largely consumed in every part of France. It is boiled and eaten by dipping into a sauce each piece as it is consumed. Sometimes the sauce is prepared in the kitchen, but more generally each one makes his own sauce at the table, consisting of olive oil mixed with a trifle of vinegar and salt. Only the whitish part of the artichoke is eaten. It is nutritious, of a delicate flavor, and is more easily preserved from disease than the potato, in consequence of which one of the members of the Central Imperial Society of Paris recommends its substitution for that popular vegetable, at least to a certain extent. The same authority states that it is nourishing as well as economical food for animals.

HOW TO EXTRACT COFFEE.—If coffee, after roasting, were made as fine as flour by pounding in a mortar, it could be extracted so much better as to require no more than two-fifths as much as if it were only coarsely ground. An equally strong extract can be made by allowing water to stand on the grounds, as by giving it a boil or by filtering through it. The latter method is the true one for retaining all of the aroma. When coffee beans are roasted, an empyreumatic oil is produced, which being very volatile, is expelled if the coffee extract be boiled. It is better to make the grounds as fine as flour, and to extract by filtration, and never to boil.

HOW TO MAKE TEA.—Tea cannot be properly made from water that has been boiling long. Cold water must be put in the kettle, adding the tea at the moment of ebullition, and not a minute after. It might also be pointed out that the practice of measuring tea in spoons is a mistaken one, as the strength of the infusion depends on the weight; and a few larger or smaller leaves make a wonderful difference in the quantity contained in a teaspoon, and consequently in the strength of the infusion.

TO DRY VENISON.—There is no greater delicacy than dried venison. Wm. A. Jepson gives the *Ventura Signal* this recipe which he says is quick and effectual: Bone a nice fresh ham; cut through to the upper joint and put in the hole a piece of salt-petre the size of a pea; then immerse the ham in strong, boiling brine two or three minutes and hang up in a cool, dry, shady place, or, if preferred, smoke it.

TAKE YOUR MEALS AT REGULAR HOURS. Breakfast should be enjoyed soon after rising, and before any laborious exercise. Eat no late suppers. Severe physical and mental labor during the last hour, either before or after meals, should be avoided when possible.

TO CLEAN BRASS.—If stained, rub over with oxalic acid or strong vinegar; polish with rotten-stone pulverized and whisky or sweet oil, or turpentine; then rub with soft leather or buckskin.

Domestic Receipts.

TO PICKLE PEACHES.—Take any quantity of good ripe peaches, wipe them clean, lay them one day in good brine, take them out and pour sufficient cold vinegar over them; let them stand one day and they are fit for use.

A NICE WAY TO COOK IRISH POTATOES.—Boil them until done, then remove the skin carefully, and mash and strain them through a sieve. Add some milk, butter, black pepper, and salt to the taste; bake half an hour and serve hot. A nice custard may be made in the same way, by leaving out the pepper and salt, and adding two eggs, sugar and nutmeg to suit the taste; bake half an hour; serve hot, with cream sauce.

SCOTCH SNUFF put in holes where crickets come out will destroy them.

VEAL CROQUETTES.—Take very fine minced veal, moisten it with cream, and a beaten egg. Season with pepper, salt, sweet-marjoram, and a little pounded mace. Form into small cones, either by hand, or in a wine-glass; crumb the outside, and fry, or else set into the oven and bake, basting frequently.

TOMATO OMELET.—Beat up six eggs, mix two tablespoonfuls of flour, with a little butter, and add some salt and pepper. Peel four tomatoes, and chop very fine. Stir all together and fry. Oyster omelet is made in the same way, substituting a dozen chopped oysters for the tomatoes.

HAM OMELET.—To 3 eggs and 3 table-spoons of milk, take 1 tablespoon of cooked ham chopped or finely cut. Beat the eggs very light, add the milk and ham with a little salt and pepper. Then pour into a well-buttered frying-pan, enough to cover the bottom, and as soon as it cooks a little, begin to roll it up with a knife, till it looks like a lovely gold fish let out of a brooklet, and tastes even better than it looks.

COCOANUT CANDY.—Use equal quantities of loaf sugar and grated cocoanut; add enough milk of the cocoanut to moisten the sugar. Put it to boil, and stir almost constantly. When the candy begins to turn to sugar, stir in the cocoanut as quickly as possible. Pour it into buttered dishes. Cut while warm with a buttered knife. Parched ground peas (beat) may also be used.

Mechanical Hints.

CONSUMPTION OF SILVER IN NEW YORK. The sales of silver in New York, for consumption by manufacturers of silverware, including bars of refined and Mexican dollars, are said to aggregate \$5,000,000 annually. Including consumption of precious metals by manufacturing jewellers of all sorts, this aggregate is increased several fold, the estimate of New York being alone \$15,000,000—that is to say, \$5,000,000 in silver and \$10,000,000 in gold; and this is exclusive of what is known as "rolled stock," or ribbons. The fact is asserted that there is more silver used for domestic purposes in the United States than any other country in the world.

COPAL.—This resin, when in large pieces, commands high prices, even in those parts of Africa where found. The recent and fossil copal may be easily distinguished by the mottled surface, which is always one of its characteristics. Like amber, the fossil gum often incloses flowers and insects in a perfect state of preservation. Captain Grant has explained the cause of its production; the true copal gum-tree is a climber, running to great heights among the forest trees. It sometimes becomes entirely separated from its original root, and the copal exudes from these detached roots.

CAMPOR A GOOD BAROMETER.—The camphor bottle makes an excellent barometer. The thin flakes of the gum will arise to the top of the bottle when there is to be a change in the weather, from fair to cloudy and wet. When the flakes settle down to the bottom, it is almost certain to be good weather.

FURNITURE POLISH.—One pint of linseed oil, one wineglass of alcohol. Mix well together. Apply to the furniture with a linen rag. Rub dry with a soft cotton cloth, and polish with a silk cloth. Furniture is improved by washing it occasionally with soap-suds. Wipe dry, and rub over with very little linseed oil upon a clean sponge or flannel. Wipe polished furniture with silk. Separate dusting-cloths and brushes should be kept for highly polished furniture. When sweeping carpets and dusting walls always cover the furniture until the particles of dust floating in the air settle; then remove the covers, and wipe with a silk or soft cotton cloth.

LIFE THOUGHTS.

SUPERABUNDANCE is a trouble; competency brings light.

HARMONY exists in difference no less than in likeness, if only the same key-note govern both parts.

NOTHING is more easy than to do mischief; nothing is more difficult than to suffer without complaining.

DESPISE a man, and you become of the kind you would make him; love him, and you lift him into yours.

LIFE'S firmest ground is insecure, its strongest fortress powerless against the touch of the great destroyer.

How to Get On in Life.

A young man writes to us that he has had "ten years' office experience," we suppose as a clerk or book-keeper, during which time he has saved "the sum total of \$75," which is his all. He wishes to settle in some "growing young town and grow up with it."—He is evidently sincere, and his letter shows that he is not deficient in ability and has some good sense. We therefore say to him, plainly, that success in life does not come in that way. No man finds a fortune by chance, nor can he "grow" into a state of prosperity merely by planting himself in a fresh virgin soil. Everything in life worth having is wrestled for and acquired through severe labor and self denial. It is a great mistake to suppose that the failures of aspirants in this line come from adverse surroundings. Circumstances have much less to do with material prosperity than is generally supposed. Favoring conditions may accelerate the acquisition of an estate, but the same application and self-denial will guarantee the final result under any conditions. There are exceptions, of course; but this is the rule. A man without a family who has been toiling in New York for ten years, and has laid up but \$75 dollars, would not "grow up" into anything better, even amid the stimulus of that wonderful activity which marks the youth of a thriving town. The accretion that comes upon a man who waits to grow up by outward helps, is only the overlaying of rust and canker that gnaw out the vitals. The true growth is that which comes from within, and employs every faculty in the earnest effort. Nearly all of our young men make the same mistake which our correspondent confesses—they spend too large a proportion of their earnings for adornments and unhealthy indulgences of the baser appetites. Fine clothes, jewelry, cigars, liquors, pleasure hunting, and other costly or vicious habits, waste no inconsiderable portion of their annual income. We heard a man spoken of the other day as one who had been remarkably "lucky" in establishing himself in a comfortable home, and that was the only word used to distinguish between him and an associate who had more brilliant talents, but failed of success. There was no luck in the matter, for we knew them both. They were both married, without children, and each entering upon a salary of \$1,000 per annum, went about the same time to look for board in Brooklyn. The "unfortunate" man took board for himself and wife at \$20 per week, which he said was the cheapest at which he could get a comfortable room in a first class house. The "lucky" man looked for some time until he found clean, healthy quarters in a third story room at \$7 a week for the pair, his wife to do her own sweeping and make her own bed. He lived within his income and laid up money from the start; the other ran in debt and became embarrassed from the same hour. There is no secret in such histories; he who runs may read them. If any one assumes that the nobler part is to "enjoy life" as we go; and that the acquisition of an estate, the foundation of which is laid in early self-denial, and the structure built in patient toil with the same prevalent spirit ever present, is an ignoble ambition, we shall not argue the case. But we do say that those who desire this result can pursue it safely and surely in no other way, and if a man after knowing what it will cost, will not pay the price for it, he should not grumble at the fates, nor murmur against a discriminating Providence.—*N. Y. Journal of Commerce.*

FOUR GOOD HABITS—punctuality, accuracy, steadiness and dispatch. Without the first, time is wasted; without the second, mistakes the most hurtful to our own credit and interest, and that of others, may be committed; without the third, nothing can be done; and without the fourth, opportunities for advantage are lost which it is impossible to recall.

A FATAL CATTLE DISEASE.

By C. L. ANDERSON, M. D.—FOR THE PRESS.

Our attention for the past few days has been called to a form of cattle disease appearing on the ranch of Mr. Ruffner, near our town. Within ten days he has lost five out of a herd of nine milch cows. Every one attacked has died within 24 hours, the last one in about five hours from first appearance of the disease.

The symptoms in each have varied somewhat. The first four commenced with a disposition to rub the nose, then the side of the head and ears. This symptom would increase in violence, so that the animal would become quite frantic, rubbing against anything that might be near. The itching was not continuous at first, but somewhat spasmodic. Toward the last there was complete frenzy, and finally the animal would sink down exhausted and die. The last one commenced with spasmodic jerkings—notching or rubbing—and died apparently from the violence of the spasms.

The cattle were all giving milk and were with calf. They were all in good condition and well cared for, as are all of Mr. Ruffner's stock.

Post mortem examinations were made of three. In the first I found effusion and softening of the brain next the spinal cord, the disease extending an inch or two down the cord. The same along the nerves to the ears and nose. The inflammation was not extensive in the membranes of the cord or brain.

The second showed a healthy brain and membranes, except on the left side. There we found a large abscess containing about three ounces of solidified matter having a bony wall. It occupied the cavities of the ear, the canal, tympanum, and so on, having its outlet along the eustachian tube into the pharynx. There was inflammation, effusion and softening at the root of the nerve supplying the ear. Also a small tumor in the membrane at that point. All this disease (except the effusion and inflammation) was of long standing and had but little to do with the death of the cow. She rubbed that side of the head, and there was extensive effusion in the soft parts of the lower jaw which came in with the frenzy.

The third one (and last one that died) was examined in the presence of Drs. Hay and Bailey. We found inflammation violent, and effusion slight, at and in the vicinity of the cerebro-spinal axis. The membranes of the brain, elsewhere, but slightly congested and several inflamed.

In all these there was nothing abnormal of consequence found in the chest or abdomen.

The first one taken with the disease bloated very much before it died. The intestines were examined, I was told, but nothing unusual found.

I have examined the Agricultural periodicals for the past 10 years and find no mention of this disease, with one exception. The *Rural New Yorker* of July 29th, 1871, speaks of a disease mentioned by C. H. Stoddard, of Rock Island, Ill., as occurring in Mercer county, where a man lost 13 out of a herd of 20. The symptoms were itching about the tail or hind parts, causing them to rub very violently against anything. One cow caught her tail and tore it off. They passed an acrid bloody substance so strong that it would take the hair off their legs. Every one taken died inside of 20 hours. This disease was evidently some nerve poison.

I find the following scrap in a recent daily paper:

SINGULAR CATTLE DISEASE.—The cattle in the neighborhood of Wandana, Fayette County, Iowa, are dying of a disease that manifests itself by the animals scratching and rubbing the jaw until they exhibit symptoms of madness, by running and

bellowing, and almost invariably die in about twelve hours. Major Herriman has lost ten head, William Fennel two head. Milch cows appear to be the most subject to the malady, which seems to be spreading. Various remedies have been tried to arrest the disease without effect.

I have also examined several books on cattle and their diseases and but a bare mention in one is made of such a disease. In that one it is called "*Mad Itch*."

Supposed Cause of the Disease.

Jas. Taylor, an old dairyman of Santa Cruz, is positive that this disease is caused by cattle being allowed to run where hogs have been fed on corn stalks and other green food. The hogs chew the stems of plants, suck out the juice, and cast the pulp away, which the cattle afterward find and eat. This we have heard of many years ago, in the corn and pork States of Ohio and Indiana, and care was always taken to prevent cattle from feeding where hogs had been fed. There seems to be something poisonous in the saliva of hogs, but I do not know that the subject has ever been investigated. If true, the fact should be well known. That there is a great deal of ignorance about the diseases of cattle no one can deny. If "*mad itch*," or any other disease, is generated by feeding cattle and hogs together, it seems to me that authors on diseases of domestic animals should be informed of the fact, and make a prominent notice of it in the next edition of their books.

In regard to the treatment of Mr. Ruffner's cows no remedy seemed to be of any value; bleeding, scarifying, purging, hot cold and stimulating applications, boring the horns, splitting the tail, and other things too tedious to mention as well as too barbarous to practice.

I am inclined to consider this as not a cattle epidemic, (epizootic,) from the fact that there are many hundreds of cows in the neighborhood and none have suffered in this way. It is rather dependent on some local cause—some infective poison taken into the system and acting upon the brain or other nerve centres. So far as I could ascertain there was no fever or unusual heat accompanying these cases. Neither was the circulation much accelerated, or the respiration. This may have occurred toward the last.

Should any one have definite information in regard to the above disease, it would be well to make it public.

P. S. Since the above was written, Mr. Ruffner informs us that he has lost another cow. She died in about eight hours with symptoms like the first four. There are two more sick that will probably die.

Santa Cruz, Oct., 1871.

Santa Clara Farmer's Club—The Fence Question.

The regular meeting of the Club on Saturday last, was well attended, and the fence question liberally discussed. The opinion of most of the speakers was favorable to as little fencing as possible. It was held that no person ought to be required by law to build fences around his entire crop to protect it from the ravages of cattle running at large, and it seemed to be the sense of the meeting that no stock of any description ought to be allowed to roam without restraint in any agricultural district. It was also claimed that the present requirements of law and custom operate as an obstacle to the settlement and cultivation of a large portion of our land, for many a person would like to go into farming who cannot afford in the beginning the outlay necessary to enclose even a moderate sized farm. The question chosen for discussion at the meeting Saturday, Oct. 28th, is "*The Condition and Needs of our Public Roads*." Hon. S. O. Houghton has been invited to deliver the opening address, and it is understood that the invitation has been accepted.

FARMERS' CLUB EXHIBITION.—Yesterday and to-day the Santa Cruz Farmers' Club are engaged in superintending a display of the different products raised in Santa Cruz county. The Club has extended a general invitation to all citizens to take part in the Exhibition. With proper effort, this exhibition can be made a great success. Paintings, engravings and statuary decorate the hall. If this Fair receives proper encouragement, says the *Sentinel*, it will be the commencement of a series of Annual County Fairs, on a larger and more extended scale. Santa Cruz county should have an Annual Agricultural Fair for the exhibition of all products, every fall, and there is no reason why success should not attend the efforts.

Singular Floral Transmutations.

The Floral editor of *Moore's Rural New Yorker*, some two years since mentions the fact, as a veritable one, of a yellow rose changing to a red one in the growth! The circumstances were given substantially as follows;

There was a rose bush of the oriental sweet briar species, in the garden of a neighbor, which for over twenty years had annually produced the common single yellow rose in great profusion of blossom. This year, (1869,) while that variety of rose, which is an early one, was in bloom in other grounds, it was noticed as a singular fact that this bush had presented no buds. As the season passed, the ordinary time for the general appearance of roses came on, the defianting briar came out in a flaming red prescution! and that is the show it now makes. The rose is somewhat double, slightly fragrant, and much larger in diameter than the yellow one it formerly bore. It has a marked, different general appearance from any other rose I ever saw, having, so to speak, a strange wild look.

There has been no grafting or other change of stock or root by artificial means in this case. Near the mysterious bush, along the piazza, are growing in great thriftiness the Michigan, Boursault and Queen of the Prairie climbing roses. The changed briar is apparently in the best of health, and is unusually vigorous in its growth.

ANOTHER similar case is recorded in the *American Agriculturist*, of January, 1860, which is now before us. The attention of the editor had been called, to a white ever-blooming rose bud, some of whose petals were often streaked with red, then mottled and flecked with crimson; sometimes a single petal of a bud would be streaked with crimson, while all the rest were white. Stranger still, occasionally one blossom would be entirely crimson, while the others are white or delicately striped. These "sports," says the *Agriculturist*, occur most frequently late in the summer or on the approach of frosty nights. It would seem as if the plant were a cross between a white and crimson, possessing most the nature of the white, but occasionally developing a little of the blood of the crimson parent; the like of which is often seen in human families. The editor adds that the bush is often treated with rotten leaves and chip dirt.

STILL ANOTHER.—The editor of this paper is quite sure he has met with something similar to the above, in a white rose bud, which we brought from the mountains (Grass Valley,) about eight years ago. It grows there in a naturally rich warm soil, and in a warm sunny exposure. It was planted in this city in a very bleak locality, and in a cold clayey soil, where it has not received very good attention; although it has been quite fairly treated with chip dirt. It has never produced a fully white rose here; its flowers are a light red, finely streaked with white. In the mountains its flowers were very large and double, here much less so—flowers usually very small.

We feel very confident that no mistake was made in the transfer, which was done by taking a portion of the root of the original stock with flower-stalks attached. The same mode of separation was repeatedly employed in the mountains, without any change in the character of the flower.

PROPAGATING GERANIUMS FROM LEAVES. Having a plant of the ivy leaved geranium, *L'Elegante*, says a correspondent of the *Floral World*, I was desirous of increasing the stock. I accordingly struck a number of cuttings. Among these I placed in the cutting-pot, as an experiment, a single leaf, with no portion of the main stock or bud attached. This leaf has struck, and has now become a good sized plant. But the foliage is totally different from that of the parent plant, which has leaves of a glossy green color, with a narrow white margin. In the plant raised from the leaf, there is no edging to the leaves, and they are entirely green, with the exception of a dark bronze blotch in the center of the oldest leaves. The plant has not yet flowered, and I shall be curious to see whether the blossom will differ from that of the original plant.

ANOTHER.—A lady correspondent of *Tilton's Journal of Horticulture*, writing

from Texas, mentions another instance of propagation of geraniums by the leaves. She says: "In February, as I was putting down some cuttings of geraniums, I stripped off some well-matured leaves of the Nutmeg-scented geranium, and dropped them on the damp ground of the green-house. Several days after I noticed they had not withered; so I took them up and planted them in a box of potting soil. In a few weeks little plants sprang up from the leaf stems, which are now growing finely."

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

(FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.)

FOR THE WEEK ENDING OCT. 17.

MINING-SLICE AND RIFLE.—Converse J. Garland, Gwin Mine, Cal.

SAW.—De Witt Riker, San Francisco, Cal., assignor to himself and Frederick W. Runge.

SASH-TIGHTENER.—William E. Swett, San Francisco, Cal.

SAD-IRON HANDLE.—Alexander Tait, Sonora, Cal.

CONCENTRATING SILVER ORES.—Thomas Wren, Hamilton, Nev.

HARNESS.—George W. Dutton, Tomales, Cal., assignor to himself and John Ashton, same place.

STEAM-PLow.—Oliver Hyde, Oakland, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

SISKIYOU COUNTY FAIR.—The annual Fair of the Siskiyou Agricultural Society was opened on Monday of last week. The telegraph reports that the attendance was not large, and but little interest was manifested in the exhibition. The races were also poorly attended. Perhaps we may have a different account when the full report is received.

FRUIT RECEIPTS FOR THE WEEK.—A. Lusk & Co., wholesale fruit dealers, report that the fruit receipts in this city last week were as follows: Apples, 4,200 boxes; pears, 2,400 common, 300 Bartlett's and 150 Seckel; 7,200 native grapes, 8,400 foreign; 600 boxes of quinces; 150 of figs; 4,200 pounds of strawberries; 120 boxes of peaches; 30,000 melons. Of dried fruits the receipts were: 18 tons of peaches, 8,000 pounds of plums, 1,000 pounds of quinces, 1,500 pounds of nectarines, 600 pounds of pears, 600 pounds of grapes, and 2 tons of California raisins.

A WRONG REPORT.—In the report in the *Morning Call* of a late meeting of the Homeopathic Association of San Francisco, it was stated that Dr. John H. Floto, one of our oldest homeopaths, had retired from practice, etc. Such is not the case by any means, although the experienced and learned Doctor has withdrawn from the said Association, he has no present intention of retiring from homeopathy or his extended practice.

STILL GATHERING THE CROP.—The *Snelling Argus* reports that Buckley, Strong & Co., are still gathering their crop of cotton. It is now thought that about 80,000 pounds of seed cotton will be gathered, or over 1,000 pounds to the acre—a most extraordinary yield for any locality. The *Argus* understands that preparations are being made to plant a large crop, next season, on the land of Mr. Chapman on the west side of the San Joaquin. We are fast reaching a most satisfactory solution of the cotton problem.

SEEDING COMMENCED.—A large number of farmers have been engaged in dry sowing on the light, dry soil of the San Joaquin Valley for the last three weeks.

LARGE LAND PURCHASE.—It is stated that L. Armstead, of Point Reyes, has purchased a ranch of about 1,000 acres in Santa Cruz county, whither he will remove and carry on his dairy business.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, Thurs., A. M., Oct. 26th.

FLOUR—The local inquiry has been fair, with very little demand for export. Sales reported embrace 3,500 bbls. Cal. extra, 2,000 Oregon extra and 1,500 Cal. superfine, at current rates. We quote prices at slightly reduced figures, as follows:

Superfine, \$6.75@7.00 extra, in sacks, \$7.75@8.00. Standard Oregon brands, extra, may be quoted \$7.62@7.75.

WHEAT—The market still continues quiet, and at slightly reduced figures, but with no demand for export. Sales embrace some 16,000 sacks fair to choice at \$2.55@2.72½. The market for fair may be quoted at the close at \$2.55; for choice \$2.65 per 100 lbs; 200 sacks choice for seed have sold for \$2.80.

The latest Liverpool market quotation is to the 24th inst. when the price was 13s. 2d.—no change since last report.

BARLEY—Has been in only moderate demand during the past week. Sales aggregate 10,000 sacks ordinary coast to choice bay, at \$1.87½@2.05. At the close we quote at \$1.87½@2.05.

OATS—Receipts have been free and demand light. Sales have been 3,000 sacks ordinary coast to choice bay, at \$1.75@1.95, which is the extreme at close.

CORN—In limited demand during the week. We quote between \$2.00@2.20.

CORNMEAL—Is quotable at \$2.15@2.25.

BUCKWHEAT—Quotable at \$2.75@3.25.

RYE—According to quality is quotable at \$2.37½@2.40.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Demand fair at \$30 per ton from the mill.

MIDDLINGS—For feed are now selling at \$40.00@42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Receipts free and demand good, during the past seven days, and prices are firm at \$17@23 for fair to choice hay.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The market continues to be freely supplied and prices rule low—70@85c for Mission, and 87½c@1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.12½@1.25.

HOPS—We quote new at 50@60c.

HIDES—A telegram from New York reports market weak and declining. During past week 1,867 Cal. dry at 17@18 and 1,970 salted at 9@9½c.

WOOL—The market shows a little more activity since our last weekly review, with sales of 500,000 lbs. including burry and dirty descriptions—Clean 26@28c; 22@25c for slightly burry, and 18@20 for burry. Lambs ranges from 29 to 32c per lb. for extra choice.

TALLOW—Market steady at 9@10c per lb.

SEEDS—Flax 3c; Canary, 7@7½c; Alfalfa, 15@16c, new and clean, 19c. Mustard—California Brown, 3@6c; Cal. White 3½@4½c per lb.

PROVISIONS—California Bacon 14@15c; Oregon, 15½@16c; Eastern clear 13½@14½c; Cal. Hams 14½@15½c; Or. 15½@16½c; California Sugar-cured Hams, 17@18c; Oregon do, 17@18c; Eastern do, 19@20c; California Smoked Beef, 14c.

BEANS—Market steady. The following are jobbing rates: Pea \$2.75; small White \$2.75; small Butter \$2.25@2.37½; large do, \$2.50@3.00; Pink \$2.12½; Bayo, \$3.25@3.50 per 100 lbs.

ONIONS—Are quotable at 70@90c per 100 lbs; sales weak and irregular.

NUTS—California Almonds, 10@12c for hard and 18@20c for soft shell; Peanuts, 7c; Pecan, 25c per lb.; walnuts, 15c; Hickory, 12c; Brazil, 15c.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c per lb. Do 2d quality 7@8c per lb. Do 3d do 5@6c per lb.

VEAL—Extremes, 7@10c.

MUTTON—5@6c per lb.

LAMB—Steady at 7c per lb.

PORK—Undressed grain-fed is quotable at 5½@6c. dressed, grain-fed, 8½@8¾c.

POULTRY—Live Turkeys, 17@19c per lb; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$4.50@5.00. Ducks, tame, \$5.00@6.00 per doz. Mallard \$3.00@4.00, small \$1.50; Geese, \$12@15 per dozen.

DAIRY PRODUCTS—California Butter, common to good, in rolls, may be quoted at 40@60c; California firkin butter, 27½@32½c. Eastern firkin 20@30c.

CHEESE—In fair supply; California new, 10@15c, Eastern, 14@16c.

Eggs—California fresh, 57½@60c per doz.

LARD—California Lard, 11-lb tins, 13@14c; Oregon in bbls. 14½c; Eastern do. 13@13½c.

FRUIT.

| | |
|---|--|
| Tahitian Oranges, \$30 00 @ 35 00 | |
| Limes, per 1,000, 10 00 @ 15 00 | |
| Australian Lemons, per 100, 5 00 @ 5 00 | |
| Sicily do, per 100, 10 00 @ 14 00 | |
| Bananas, per bunch, 1 50 @ 3 00 | |
| Cocoanuts, per 100, 6 00 @ 10 00 | |

| | |
|---|--|
| Apples, 50 @ 1 00 | |
| Pears, cooking, 50 @ 1 00 | |
| Winter Nellis, 1 50 @ 2 25 | |
| Seckel do, per box, 1 00 @ 2 00 | |
| Peaches, per box, — @ — | |
| Quince, per box, 75 @ 1 25 | |
| Strawberries, per lb., 1 00 @ 1 50 | |
| Plums, per box, 5 @ 6 | |
| Prunes, per lb., 5 @ 6 | |
| Figs, per lb., 2 @ 3 | |
| Grapes, Sweetwater, per lb., 1½ @ 2 | |
| Mission do, per lb., 3 @ 4 | |
| Rose of Peru do, per lb., 3 @ 4 | |
| Black Hamburg do, per lb., 3 @ 4 | |
| Muscad of Alexandria do, per lb., 3 @ 5 | |
| Flame Tokay do, per lb., 4 @ 7 | |
| Isabella do, per lb., — @ — | |

DRIED FRUIT.

| | |
|-----------------------------|--|
| Apples, per lb., 6 @ 8 | |
| Pears per lb., 8 @ 10 | |
| Plums, per lb., 9 @ 9½ | |
| Apricots, per lb., 8 @ 8½ | |
| Plums, per lb., 6 @ 8 | |
| Pitted do, per lb., 18 @ 20 | |
| Raisins per lb., 10 @ 15 | |

VEGETABLES.

| | |
|--|--|
| Cabbage, per lb., ½ @ 1½ | |
| Garlic, per lb., 1½ @ — | |
| String Beans, per lb., — @ — | |
| Summer Squash, per 100, 1 00 @ — | |
| Tomatoes, River, per box, 50 @ 1 00 | |
| Bay do, per box, 75 @ 1 00 | |
| Cucumbers, per doz., 1 25 @ 1 50 | |
| Green Corn, per doz., 12 @ 15 | |
| Watermelons, each, 10 @ 15 | |
| Cantaloupes, each, 8 @ 12½ | |
| Lima Beans, per lb., 2½ @ 3 | |
| Marrowfat Squash, per ton, 5 00 @ 8 00 | |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—We note a limited demand at unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—

The stock of Oregon Pine in this city is said to be lighter than any previous time in several years. The demand is fair, and prices are higher. At the meeting of the Redwood Lumber Association, on Saturday, it was resolved to advance wholesale rates on the 1st of November as follows:

| | |
|---|--|
| Merchantable worked rustic, from \$31 00 to \$32 50 | |
| Refuse do do from 20 00 to 21 50 | |
| Merchantable surfaced and rough, clear, from 28 00 to 30 00 | |
| Refuse surfaced and rough, from 18 00 to 20 00 | |
| Merchantable beaded flooring, from 28 00 to 30 00 | |
| Refuse do do from 18 00 to 20 00 | |
| Merchantable rough, from 15 00 to 16 00 | |
| Refuse do do from 11 00 to 12 00 | |
| Fancy Pickets, from 22 50 to 25 00 | |
| Rough Pickets remain unchanged. | |

San Francisco Retail Market Rates.

FRIDAY, October 27, 1871

MISCELLANEOUS.

| | |
|------------------------------|--|
| Butter Cal. fr. 45 @ 70 | |
| Pickled Cal. do 65 @ 70 | |
| do Oregon, lb., 45 @ 50 | |
| Honey, per lb., 25 @ 30 | |
| Cheese, per lb., 20 @ 25 | |
| Eggs, per doz., 60 @ 65 | |
| Lard, per lb., 18 @ 20 | |
| Sugar, lb., 10 @ 12 | |
| Brown, do, 10 @ 13 | |
| Beet, do, 10 @ 10 | |
| Sugar, Map, lb., 25 @ 30 | |
| Plums, dried, lb., 15 @ 25 | |
| Peaches, dried, lb., 15 @ 25 | |

PRODUCE, ETC.

| | |
|-----------------------------|--|
| Codfish, dry, lb., 8 @ 10 | |
| Flour, ex. wh. 30 @ 50 | |
| Superior, do, 60 @ 80 | |
| Corn Meal, 100 lb. 30 @ 35 | |
| Wheat, per 100 lbs. 25 @ 30 | |
| Oats, per 100 lbs., 15 @ 20 | |

FRUITS, VEGETABLES, ETC.

| | |
|--------------------------------|--|
| Pine Apples, 5 @ 10 | |
| Bananas, per lb., 3 @ 5 | |
| Cal. Walnuts, lb., 20 @ 25 | |
| Cranberries, per lb., 75 @ 100 | |
| Cranberries, per lb., 75 @ 100 | |
| Apples, Early, lb., 50 @ 60 | |
| Red Astran, lb., 50 @ 60 | |
| Red Juns, lb., 20 @ 25 | |
| Pears, table, lb., 75 @ 100 | |
| Plums, Cherry, lb., 10 @ 12½ | |
| June, per lb., 10 @ 12½ | |
| Apricots, Roys, lb., 3 @ 4 | |
| Moopark, lb., 3 @ 4 | |
| White, lb., 2½ @ 4 | |
| Raspberries, lb., 15 @ 20 | |
| Strawberries, lb., 18 @ 20 | |
| Blackberries, lb., 15 @ 20 | |
| Oranges, per cwt., 30 @ 40 | |
| Lemons, per cwt., 50 @ 60 | |
| Limes, cwt., 25 @ 30 | |
| Eggs, dried, lb., 15 @ 20 | |
| Asparagus, wh., lb., 37½ @ 40 | |
| Apricots, lb., 6 @ 10 | |
| Artichokes, doz., 50 @ 75 | |
| Brussels sprits, lb., 15 @ 20 | |
| Beets, per doz., 20 @ 25 | |
| Potatoes, lb., 2 @ 3 | |
| Potatoes, sweet, lb., 4 @ 5 | |
| Broccoli, per doz., 50 @ 60 | |
| Cauliflower, lb., 10 @ 15 | |
| Cabbage, per doz., 75 @ 100 | |
| Carrots, per doz., 10 @ 25 | |

POULTRY, GAME, MEATS, ETC.

| | |
|--------------------------------|--|
| Chickens, apiece 50 @ 75 | |
| Turkeys, lb., 25 @ 30 | |
| Ducks, wild, lb., 50 @ 75 | |
| Tame, do, lb., 50 @ 75 | |
| Teal, per doz., 3 00 @ 3 00 | |
| Geese, wild, each 30 @ 40 | |
| Tame, pair, 2 50 @ 3 00 | |
| From Chicago, 75 @ 100 | |
| Hens, each, 25 @ 30 | |
| Snipe, per doz., 20 @ 25 | |
| English, do, 12½ @ 18 | |
| Venison, lb., 12½ @ 18 | |
| Quails, per doz., 2 25 @ 2 50 | |
| Pigeons, dom. doz 10 @ 15 | |
| Wild, do, 10 @ 15 | |
| Hares, each 40 @ 50 | |
| Rabbits, tame, 50 @ 100 | |
| Wild, do, 25 @ 30 | |
| Squirrel, lb., 25 @ 30 | |
| Beef, tend, lb., 20 @ 25 | |
| Sirloin and rib 18 @ 20 | |
| Corned, lb., 10 @ 12 | |
| Smoked, lb., 15 @ 18 | |
| Pork, rib, etc., lb., 12½ @ 15 | |
| Chops, do, lb., 12 @ 15 | |
| Veal, lb., 15 @ 20 | |
| Cutlet, do, 12½ @ 15 | |
| Mutton chops, 12½ @ 15 | |
| Leg, lb., 12½ @ 15 | |
| Lamb, lb., 12½ @ 15 | |
| Tongues, beef, ea 75 @ 100 | |

* Per lb. † Per dozen. ‡ Per gallon.

THE PEOPLE'S PRACTICAL POULTRY BOOK—A work on the Breeds, Breeding, Rearing and

General Management of Poultry, by Wm. M. Lewis. Illustrated with over 100 Engravings.

New York, 1871: Sold by DEWEY & Co., at this office, for \$1.75. Post paid, \$2.00.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|--|--|
| SOLE LEATHER.—SAN FRANCISCO, Thursday, October 26. | |
| Let him and the demand good. | |
| City Tanned Leather, lb., 25 @ 28 | |
| Santa Cruz Leather, lb., 25 @ 28 | |
| Country Leather, lb., 25 @ 28 | |
| French Calf comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm. California kip and calf skins are still scarce and high. | |
| Jodot, 8 Kil., per doz., \$80 00 @ 95 00 | |
| Jodot, 11 to 19 Kil., per doz., 76 00 @ 95 00 | |
| Jodot, second choices, 11 to 15 Kil., per doz., 65 00 @ 80 00 | |
| Lemoine, 16 to 19 Kil., per doz., 65 00 @ 80 00 | |
| Levin, 12 and 13 Kil., per doz., 65 00 @ 70 00 | |
| Cornellian, 16 Kil., per doz., 72 00 @ 80 00 | |
| Cornellian, 12 to 14 Kil., per doz., 65 00 @ 70 00 | |
| Ozerau Calf, per doz., 54 00 @ 60 00 | |
| Mercier Calf, 16 Kil., per doz., 65 00 @ 70 00 | |
| Robert Calf, 7 and 8 Kil., 35 00 @ 40 00 | |
| Common French Calf Skins, per doz., 35 00 @ 40 00 | |
| French Kips, lb., 1 00 @ 1 30 | |
| California Kip, per doz., 65 00 @ 80 00 | |
| Eastern Wheel Stuffed Calf, lb., 1 00 @ 1 25 | |
| Eastern Bench Stuffed Calf, lb., 1 15 @ 1 25 | |
| Eastern Calf for Backs, lb., 1 15 @ 1 25 | |
| Sheep Roams for Topping, all colors, per doz., 8 00 @ 13 00 | |
| Sheep Roams for Linings, per doz., 5 50 @ 10 50 | |
| California Russett Sheep Linings, 1 75 @ 5 50 | |
| Best Jodot Calf Boot Legs, per pair, 5 25 @ 5 50 | |
| Good French Calf Boot Legs, per pair, 4 50 @ 5 00 | |
| French Calf Boot Legs, per pair, 4 00 @ 4 50 | |
| Harness Leather, lb., 30 @ 37½ | |
| Fair Bridle Leather, per doz., 48 00 @ 72 00 | |
| Siding Leather, per doz., 34 @ 37½ | |
| Wet Leather, per doz., 30 00 @ 50 00 | |
| Buff Leather, per foot, 17 @ 21 | |
| Wax Sides Leather, per foot, 18 @ 20 | |

Our Printed Mail List.

Subscribers will notice that the figures found on the right of the pasted slips, represent the date to which they have paid. For instance, 21st 70 shows that our patron has paid his subscription up to the 21st of September, 1871; 41y72, that he has paid to the 4th of January, 1872; 41y73, to the 4th of July, 1873. The inserted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction. Please notify us if you are not properly credited within two weeks after paying.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labor of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

| | |
|---|--|
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| C. H. DWINE—Special Corresponding Agent. | |
| TALBOT P. POWERS—Solana and neighboring Counties. | |
| I. N. HOAG—Sacramento, General Agent. | |
| F. M. SHAW—San Diego. | |
| L. P. MCCARTY—California. | |
| T. W. DRILLARD—California. | |
| M. W. LEVY—Denver, Colorado. | |
| M. B. STARR—Pacific Coast. | |
| THOMAS POYZER—California. | |
| WM. J. CLARK—California. | |
| JOSEPH DIMMICK—California. | |
| E. P. HICKS—California and Oregon. | |
| A. C. KNOX, City Soliciting and Collecting Agent. | |

JOURNALISTIC—MR. W. H. MURRAY, agent of the SCIENTIFIC PRESS and PACIFIC RURAL of S. F., is canvassing our town for those excellent papers. Mr. Murray was here last year and obtained large lists for the Press. He has since visited other Territories with like results, and now comes to introduce that other worthy exponent of an equally great interest—agriculture and stock growing. He will visit other camps of this county and Missoula in the course of a few days, to solicit subscriptions.—*New Northwest, Montana.*

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

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1871.

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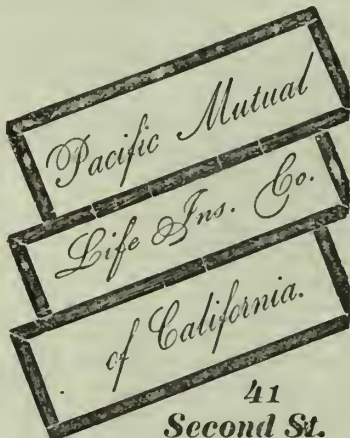
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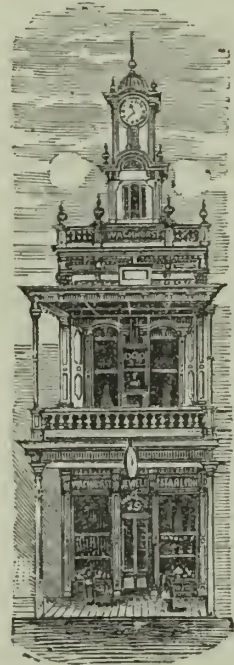
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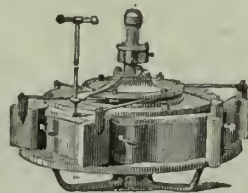
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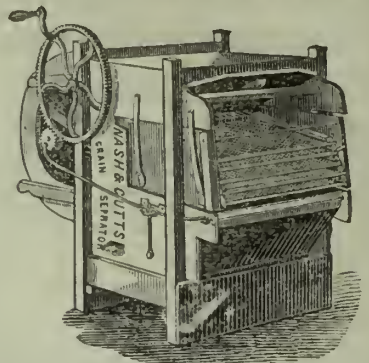
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118 K Street, between Fourth and Fifth, opposite the Metropolitan Theater, SACRAMENTO.

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BUTTER FIRKINS, PORK BARRELS, ETC.,
Made of the Best Eastern White Oak.

Tanks of Redwood or Sugar Pine, for Wine Making or Water Reservoirs, made to Order.

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The flame is as white and brilliant as coal gas, and produces neither Smoke nor Smell. No CHIMNEY is Required.

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They are made of the best material, and every Plow warranted.
They are of light draught, easily adapted to any depth, and are very easily handled.
They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!

These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,

which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by

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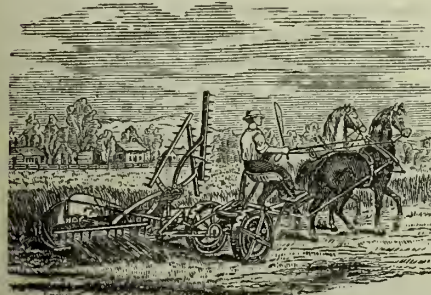
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Haines' Genuine Illinois Harvester,
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Portable Steam Engines, Etc.,
With a full stock of all kinds of implements needed in Farming.

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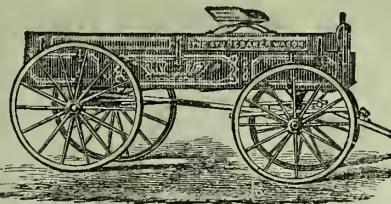
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THE BEST FARM WAGON;
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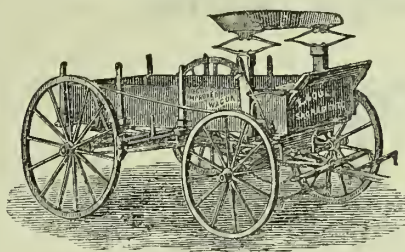
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Sold for.....\$100 to \$175

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FIRST PREMIUM AWARDED at the State Fair of 1870; also First Premium at Mechanics' Fair, San Francisco, 1871; and Silver Medal and First Premium for best Farm Wagon, and First Premium for the best improved Thimble Skein at State Fair, 1871.

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Took the Premium over all at the great Plowing Match in Stockton, in 1870.

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For Level Land and Side Hill.



8 Sizes. WON THE HIGHEST PRIZE at N.Y. State Trial, 1870, for Plowing Sod & Stubble

Send Stamp for Circular.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel Cutters, Changeable Mould-boards for sod and stubble.

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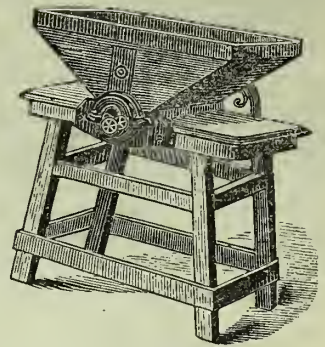
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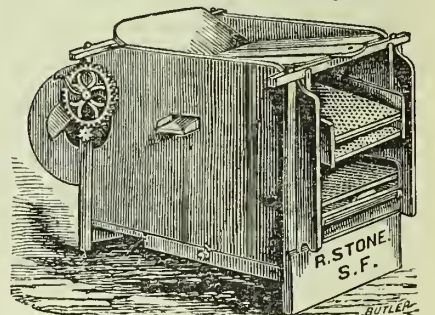
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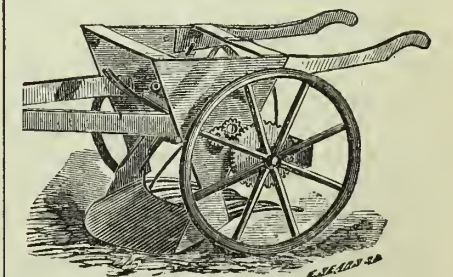
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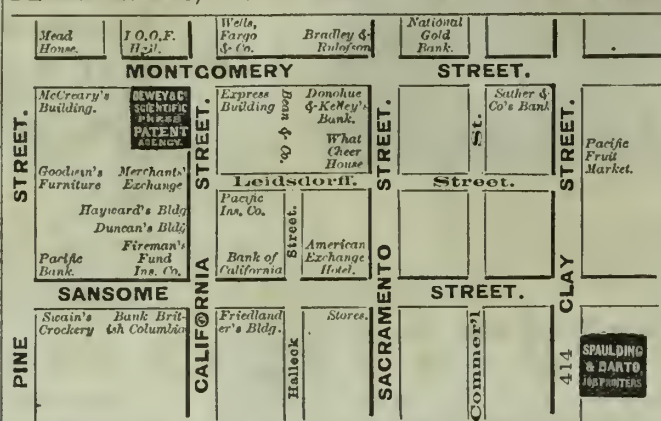
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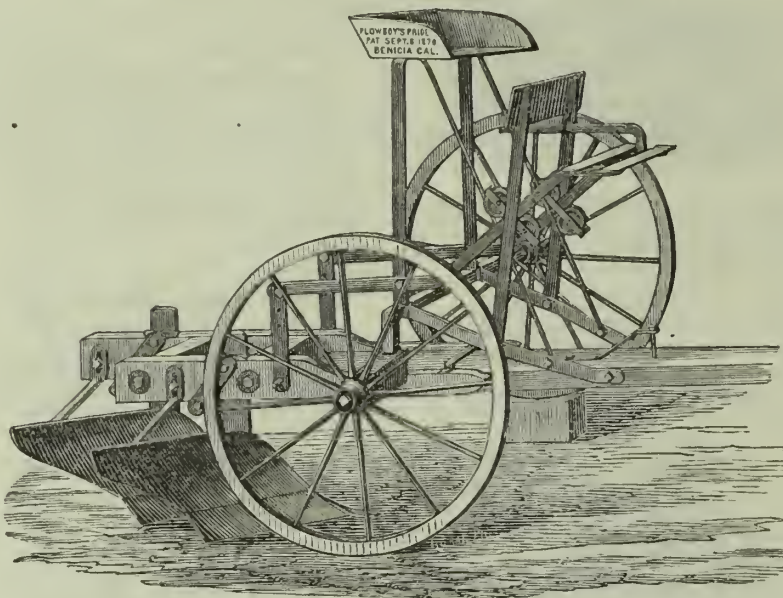
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in all kinds of soil, and on level, hilly and in tule lands, and in each instance has been pronounced a success.

One of these Plows was run last season by a boy 14 years of age.

Examine it carefully and compare it with other plows. It will stand the test. Reference is made to those who have used these Plows, among whom are the following: D. N. HASTINGS, Benicia; P. COCHRAN, Benicia; A. P. RYERSON, Solano county; FOREMAN & ROBERTS, Solano county; MAJORS & DORMAN, Contra Costa county. Manufactured and sold by

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Circulars sent Free by Mail.

oc28-1am3m

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A Work of 224 pages on the

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Office or Shop Room TO LET.

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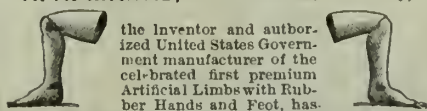
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Lime Merchant, Sacramento.

State Fair Gold Medals.

The Committee to award the Gold Medals offered by the State Agricultural Society for 1871, will meet at the Society's rooms, corner Sixth and Market Streets, Sacramento, November 1st, at 2 o'clock P. M. Prior to that time all claimants for any of said Medals are required to furnish to the undersigned a statement in writing of all facts and statistics relative to the manufacture or production of the article or articles upon which they claim the award of the Medals, or upon which they base their claim of merit. I. N. HOAG, Corresponding Secretary. oc14-3t

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by W. A. Z. Edwards, three miles north of San Jose, on the Alviso road, Santa Clara county, Cal. 16v2-3m

PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, NOVEMBER 4, 1871.

[Number 18.]

The Ramie Plant.

The interest in the cultivation of the Ramie plant, which excited so much attention a year ago or more, has in nowise abated; but rather increased with the knowledge, from numerous experiments, that the climate and soil of California is evidently most peculiarly adapted for producing it in its utmost perfection. The wide exhibition of California grown plants, of a machine for preparing the fibre for market, and of small lots of the fibre, in various stages of preparation, from the coarsest material suitable for bagging, etc., up to that of silky fineness and gloss, designed for the finest dress goods, with specimens of the manufactured goods themselves, have still farther added to the interest felt in the speedy introduction of this new article of farm product.

The ready adaptability of the fibre to such a variety of fabrics, the facility with which it may be grown, and the highly remunerative profits which it appears to promise, offer inducements which the thrifty farmers of California seem to be quite willing to accept. So great is the inquiry for information about the plant and its culture, that the indication of its early and extensive cultivation in California cannot be misunderstood, and for this reason we have reproduced in the PACIFIC RURAL PRESS the illustration which we gave of the plant in the SCIENTIFIC PRESS of October, 22, 1870.

Its Cultivation.

The ramie plant is propagated from cuttings or layers much like the mulberry—root cuttings being generally employed for the first planting. It delights in a rich sandy or loamy soil, and requires no more care or tillage than does the *morus multi-caulis*; but unlike that, which grows in single stems or trees, the Ramie grows in large bunches or clusters, as shown in the engraving, and to the light of from six to eight feet, as will be inferred by comparing the stalks with the figure placed by their side. Full particulars with regard to its cultivation can always be obtained from those who have cuttings for sale. The Pacific Ramie Company of this city have published a full circular which contains all needed information on this point.

The Ramie is a vigorous and hardy plant, remarkably free from insect enemies and other disease. Its fibre being covered by an outside bark is not liable to injury from either wet or drouth. It is perennial, and does not require replanting. It may be planted in most localities in this State any time during the rainy season during which time it secures a start which will carry it safely through even a very severe drouth; although it will grow much more vigorously, and produce a much larger amount of fibre when encouraged by rains or artificial irrigation.

There is every reason to believe that the culture and preparation of this fibre is destined to become an important branch of industry on the Pacific Coast. Indeed the indications are that it will not be allowed to pass through the usual course of gradual development; but that, like the State where it is planting itself, it will spring at once from infancy to the broad proportions of a full grown giant. It is to be hoped, however, that our people will not be overfast in taking hold of it. It would be better to introduce it as a supplement or adjunct to other products—as another step toward diversified farming.

Pomological Curiosities.

DOUBLING UP ON US.—By reference to our agricultural notes, last week, it will be seen that Mr. N. C. Jones, of Butte county, has produced a grape $4\frac{1}{2}$ inches in circumference, which beats our mammoth grape by just $1\frac{1}{2}$ inches; but the feat has been accomplished by doubling up on us—or growing a number of grapes together, by which the grape presents the contour of a tomato.

A Malformed Pear.

We find the following, with the accompanying illustration in a late number of the *London Gardeners' Journal*. It will be observed that the freak of Nature herewith described is very similar in its character with the grape production noticed above. We copy from the *Journal* as follows:—

By this post we send you a pear fruit grown on a Jargonelle Pear, and which appear to us to be peculiar.—F. DICKSON & SONS, CHESTER.

The change in question is not uncommon, and is explained by the circumstance that the core or true fruit is not produced, but in its place the stem grows out, assuming the same succulent forms as in the normal Pear. The accompanying illustration shows an analogous instance. The edible portion of an Apple or Pear is now well known to be an expansion of the flower-stalk, the true fruit, in the botanical sense, being the "core" containing the seeds, and which in course of growth becomes imbedded in the succulent flower-stalk.

Another Curiosity.

The Visalia Delta of October 12th says: Mr. Hay, a gentleman of Visalia, yesterday brought to our office a small cluster of grapes which is quite a curiosity. Growing on one stem, equally divided, are about a dozen grapes, one-half of which are a rich dark red, while the remaining portion are a clear white. Not being conversant with the different varieties, we are unable to determine the exact species, but would judge, from their size, color and peculiarity, that they are what is denominated the Alexandrian or White Muscat. Considering the fact that these two colors are homogeneous, it resolves itself into something curious and interesting. They

are from the vineyard of Mr. Jefferds, near Farmersville, and indicate the energy and perseverance of that gentleman in his experiments in deriving some new variety, better in quality and size to that already attained.

"ARNAUTKA WHEAT."—In our issue of Sept. 20th, we replied to our correspondent "H. A." in reference to the above named wheat, that we were not acquainted with the variety. Since that time we have learned that the Department of Agriculture at Washington, in 1864 purchased at Odesa, Russia, a quantity of wheat known by that name, and distributed it as seed to various farmers throughout the country. It is a very superior and prolific wheat, and has been found to yield a much larger proportion of grain than many other kinds. A bushel weighing sixty-two and a half pounds has yielded fifty-one and a half pounds of fine flour.

It has been stated by an Eastern paper that this wheat was originated by an Iowa farmer; but we believe the facts are as given above, and if any honor is due for the introduction of this improved seed it should be given where it belongs—to the Agricultural Department at Washington.

THE stock men of Tulare are anxiously seeking for pasture for their stock, which are now running on the mountain ranges, but from which they will be driven by the expected snows. The time is fast passing away when stock men in California can get along without buying land for pasturage and hay, as it is needed for agricultural purposes.

HORTICULTURAL READING ROOMS.—The B. D. H. Society have determined to open reading rooms at No. 622 Clay street, where horticultural periodicals and books may eventually be found in greater variety than elsewhere on this coast. Persons everywhere are solicited to contribute such works as they can spare that would be appropriate for such a library.

HONEY AND WAX.—An unusual amount of honey and wax has been shipped from Los Angeles the present season.

Summer in Our Inland Valleys.

Mr. Wright, who furnished the valuable paper on the rains and climate of San Joaquin Valley which we published last week, also forwards us the following interesting notes with regard to the climate of our inland valleys generally:—When a stranger to the climate of Sacramento and San Joaquin valleys observes that as high a temperature as 110° in the shade is sometimes reached in our warmest weather, he is likely to draw the wrong inference that our summer heat must be very oppressive. But strange to say, it is rarely sultry here, and our hottest weather is never prostrating.

Sun strokes are of very rare occurrence. One may be exposed day after day in July and August without any protection from the sun's rays, and will not suffer, so long as he has all the cool water he can drink, and of that we have the greatest abundance. A delightful sea-breeze from the northwest prevails, with remarkable regularity in summer, from ten or eleven o'clock till late in the evening, and is constantly fanning us and furnishing the purest of air. Summer nights are cool with very rare exceptions, and always without dew. Usually one needs a blanket or two to sleep comfortably.

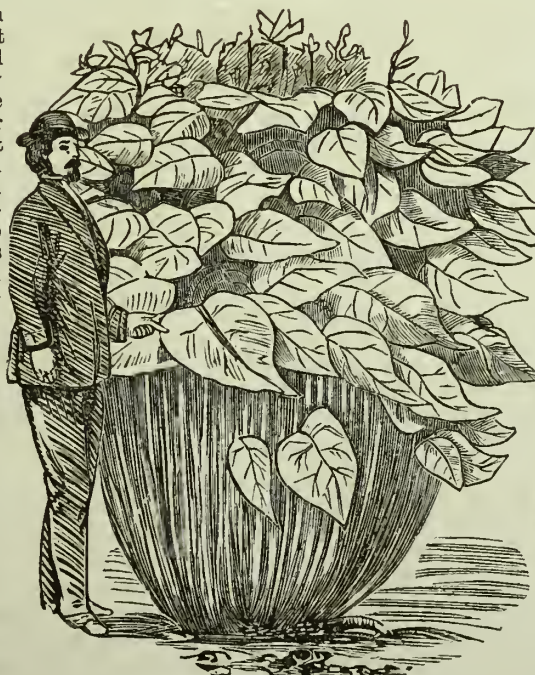
While our summer heat is prevented by these means from being prostrating, fall, and most of winter and spring, are as pleasant as the finest spring and autumn weather in the Eastern and Southern States. We speak here only with reference to the climate of our great inland valleys. Our coast and mountain climates are more uniformly cool and moist, while in the foothills the summer air is hotter and more oppressive, because the sun's rays fall more perpendicularly on a large part of the surface there, and its atmosphere is not so regularly ventilated by refreshing breezes as our open plains and the loftier portions of our mountain ranges. As a result of the difference, windmills for watering and irrigating purposes, are a specialty in our plains, but cannot be used to advantage in the foothills.

THOSE SQUIRREL SKINS.—The Sacramento Bee gives the following, which we presume was the origin of the report that purchasers could be found in this city for squirrel skins:—"Before the Franco-Prussian war, a French tanning company purchased in California a few thousand squirrel skins and tanned them, with a view of making out of them kid gloves—and the report was that their skins so prepared, made the finest and best gloves. The war not only checked this traffic, but destroyed the premises in Paris in which these skins were tanned, but they are in process of reconstruction, and when completed, they will purchase all the ground squirrel skins they may be offered."

This is probably the same old story in a new form. We doubt whether any party can ever be found who has ever purchased any such thing.



A MALFORMED PEAR.



FULL-GROWN RAMIE PLANT.

MECHANICAL PROGRESS.

A New Combination Loom.

The New York Times of a recent date contained the following paragraph, relative to a late invention to which we have already made brief reference. If this loom is anything like what is claimed, it can but excite a deep interest among manufacturers everywhere:—"Abel's new combination loom, now on exhibition, is one of the most wonderful and beautiful of recent inventions. It occupies but one-tenth the space of, and accomplishes ten times more work than, any other loom. A boy can furnish enough power for several machines. The old needle is used, but the bobbins are so free from tension that delicate threads can be knit and woven into a fine strong cloth. The entire operation is viewed at a glance. The yarn passes direct from the bobbin. Knots are smoothly sheared and fresh bobbins are supplied without any interruption. There is no dressing, beaming, spooling, or warping; in fact the old method is entirely revolutionized. The machine makes twenty-five yards of cloth per hour. It takes its own warp of filling from the same bobbin as the weft threads. It weaves a cloth that cannot be unravelled, of jute, flax, wool, cotton and silk, and can produce fine blankets, strong carpets, wool-sacks, gunny-cloth, bagging, cotton, linen or silk textures—indeed, anything can be woven or knit. The operation is more noiseless and beautiful than that of the sewing machine. The introduction of this invention into general use has already commenced, and it bids fair to greatly reduce the price of good and durable home-made cloth. Many persons possessing small water and steam powers heretofore unavailable will now be enabled to successfully compete with the larger manufacturers, who by the old process, required much more power and room. No printed description can do full justice to this invention, which must be seen to be appreciated."

The Screw Rudder.

A new invention has just been patented in Naples by Mr. Salvator D. Marin. The screw steamers can direct their course with this new invention by the power of the screw alone, and dispense entirely with the rudder, so that instead of losing part of the power on account of the resistance given by the rudder, the screw-rudder increases the power; besides, the rudder can only act when the vessel is in motion, whilst the screw-rudder will make the vessel turn on itself when standing still. The rudder frequently becomes useless against sea and wind, but it appears that the screw-rudder serves and follows the will of the captain, because it gives effective motions, and not motions which are the result of power and resistance. The vessel going backwards obtains by this rudder of the screw advantages entirely new in navigation, and can be directed at will; and when going forward the system presents also some new advantages, besides giving great improvements on the motion obtained by ordinary rudders, being much more powerful; and the turnings much shorter and more rapid. The screw-rudder can easily be applied to every screw steamer, either mixed or armour vessel, very little changes being required; and for men-of-war, the dispensing of the rudder will place the motion of the vessel more under protection from hostile projectiles. It is also a great advantage in case of the vessel being thrown ashore. The Italian Government is about to try the necessary experiments for its application.—*Mechanics Magazine*.

COATING COPPER AND BRASS WITH ZINC BY A WET PROCESS.—Cover, with a concentrated solution of sal-ammoniac, zinc in grains or powder, placed in a non-metallic vessel; warm to ebullition and introduce into the mixture the objects of copper or of brass which it is desired to coat, after having properly cleansed them. After a few minutes, the objects will be covered with a brilliant, firmly adhering, deposit of zinc. The granulated zinc is obtained by pouring the molten metal into a warm mortar and triturating vigorously, with an iron pestle, until it solidifies.—*M. R. Boettger*.

ALUMINUM BRONZE has been used, and, it is said, with great success, as an anti-friction alloy for journal bearings. The journals used were of hard steel, and care having been taken to exclude anything like grit, the wear was found to be very slight.

Engraving by Electricity.

The efforts which have been made from time to time, with but poor encouragement, to engrave on metals by means of electricity, seem at last, says the *Iron Age*, to have resulted in the attainment of practical results. An ingenious French mechanic has produced an invention by which a metal plate, upon which a design is drawn with a chemical ink of some kind is slowly rotated with its face vertical, and several other similar plates, graded in size, are also slowly rotated by appropriate mechanism. The object of the invention is to engrave on the smaller plates the design traced upon the largest, on different scales of magnitude, which is accomplished by applying a cutting point to the face of each plate, and which is pressed against it by means of an electric current whenever a blunt point, applied to the large plate, encounters the ink in which the design is traced—the cutting points being at other times withdrawn. The point presented to the first plate is merely a "feeler," which determines by electrical agency whether the ink is beneath it or not. If it is, the points are pressed into the surface of the other plates; if not, they are withdrawn and prevented from cutting. The feeler and the briens must, of course, all follow a spiral track. This is crude, and can be made applicable to the reproduction of certain kinds of designs only, but it is considered a long step in the direction of practical success.

A NOVEL RAILROAD.—A novel tramway or railroad has been lately built in Turkey, by an English engineer, the propelling power of which is not steam, but animal, horses or mules being employed. A single rail is laid on sleepers, and the carriage has wheels in the center on the same longitudinal line. Through the car runs a balancing pole, the two ends of which, projecting three feet or more, are secured to saddles on the backs of mules. The animals will thus be one at each side of the load instead of in front, as ordinarily. It would be impossible for the car to turn over, because in order to so, it would have to force one mule to the ground and lift the other in the air; and, moreover, as the floor would only be six inches above the rail, an overtrip would be of no account. All the weight of the car, if evenly distributed, would bear upon the rail, and the animals, having no load on their backs, would be able to exert considerable traction power. The inventor suggests its employment not only for military purposes, but also for tramways in large cities; and says that, where space is very valuable, a horse or mule on only one side of the car would be sufficient. In towns, on bridges, and other important places, the rail might, for a short distance, be dispensed with; and the passenger vehicles should be fitted with a small friction wheel on either side, so that if a horse should fall down, the balance of the carriage would remain undisturbed.—*National Car Builder*.

TRANSMITTING POWER BY LEATHER BELTS. The experiments made in the United States with a view to discover the best way of transmitting power by means of leather belts, have led to the conclusion, that the most effectual way to prevent the slipping of the belts is to cover the pulleys with leather. From this, it would appear that leather on leather offers a certain steadiness, and with the further advantage that the belt does fly off, and wears out less rapidly than when it runs on iron or wood. It is found in practice in a spinning factory, that a belt running on leather will produce a thread free from knots, and of much greater length, within a given time, than when running (and slipping) on an iron pulley. And we learn that in a steam mill, with five run of millstones, each set ground 27 bushels a day after they were covered with leather, being from three to four bushels more each than before. In paper mills and sugar mills, equally satisfactory results have been obtained; and we may conclude that pulleys covered with leather are best under all circumstances, even where ropes of wire are used.

STEEL.—Mr. Parkes, the inventor of the beautiful preparation of solidified oil, known by the name of 'parsine,' has recently discovered a process of purifying iron for the fabrication of steel. He first removes every particle of sulphur and phosphorus—the two elements that most deteriorate the quality—by ejecting into it fluorides and chlorides, while in a state of fusion. Afterwards he converts it into steel, by melting it in contact with coal, and again treating it with alkaline chlorides.

SCIENTIFIC PROGRESS.

Experiments in Chemical Dynamics.

J. H. Gladstone and Alfred Tribe have recently communicated a paper to the British Royal Society, in which it is shown that in various decompositions of metallic solutions the chemical change in a given time is not in proportion to the amount of salt present, but that twice the quantity gives three times the chemical action; and also that while silver is deposited on copper, in the decomposition of nitrate of silver by copper, an actual passage of the nitric element towards the copper plate occurs. In the present paper the authors exhibited the latter phenomenon in a dissected form, with other observations. A copper plate was immersed in nitrate of copper, and a silver plate in silver nitrate, while the two metals were connected by a wire, and the liquids by a porous cell; silver was deposited upon the silver plate and the copper plate was dissolved. The specific gravity of the copper nitrate solution increased from 1.015 to 1.047, and only a trace of this salt passed into the cell, which originally contained silver nitrate. The passage of SO_4H was also found to take place by an analogous experiment. Several experiments were made in which the nitrate of silver was kept constant, but the nitrate of copper was increased in equivalent multiples. It was found that the silver deposited increased with the increase in copper salt, being about double when the copper salt was seven times as strong, and that the effect of successive additions gradually diminished. This is in strict accordance with other experiments, showing that when the copper plate is immersed in a mixture of the nitrate of copper and silver the amount of silver deposited is increased, though in diminishing ratio by successive additions of copper salt. That this acceleration is not produced by copper salt only, was proven by repeating the experiments with various other nitrates. The tabulated results show that the increased effect does not depend simply upon the nitric element, but likewise on the nature of the salt.

THE NEW EXPLOSIVE—PICRIC POWDER.—Professor Abel, Chemist of the Department of War, at the Royal Arsenal of Woolwich, has succeeded, after a great many experiments, in perfecting the new explosive agent which he discovered recently and named *picric powder*.

This compound, the action of which is less violent than that of gun cotton, nitro-glycerine, or picrate of potash, is much more explosive than ordinary gunpowder, and possesses several other properties which appear to render it peculiarly adapted to its intended application. It possesses specially the merit of being promptly and easily prepared, of being less dangerous than other similar explosives, and above all, less liable to take fire by percussion. This powder is to be subjected to a thorough test at Woolwich.

THE MOUNT WASHINGTON OBSERVATORY. Sergeant Hearn, of the United States Army, is now on Mount Washington, where he will remain the coming winter with a single companion. The experience of last winter has suggested some important improvements in the establishment of the winter quarters there which have been made. The observations made from this hyperborean peak last winter are considered of sufficient importance in the advancement of science to be again repeated, with the hope of additional results.

A NEW METHOD OF OBSERVING THE SUN. P. Secchi recommends the use of a direct vision spectroscope, behind an ordinary spectroscope. In this way, he says, a sharply defined image of the sun is obtained, on which the protuberances may be measured, and observations generally be readily made.

The fading of photographs is attributed by some to the difference of the mounting boards and the adhesive material employed.

HEAT OF THE MOON.—Lord Rosse has found that the heat of the moon is transmitted by a plate of glass in the proportion of 12 per cent., while the same plate allowed the passage of 87 per cent. of solar heat, and only 1.6 per cent. of the heat emitted by a body with the temperature of 180° . His observation on the apparent temperature of the sky gave him values which vary between 16° and 31° . He finds that between narrow limits, the heating power of the lunar rays appeared to diminish with the altitude only one-third as much as the intensity of the solar chemical rays, as determined by Roscoe and Thorpe. The light of the moon was found to diminish with the altitude in the proportion of three to one, and the lunar heat of about five to one. So far as it was possible to judge by these observations the maximum of heat appeared to be given out a little after full moon.

SUN ENGINE.—Several inventors in different countries are attempting to utilize the heat of the sun's rays, and to construct a sun-engine. Many people shake their head at this idea and ridicule the very idea of success. But they are certainly unacquainted with the stupendous force at disposal. To convert one pound of water from zero to steam requires 637 centigrade units of heat. The researches of men of science have proved that every square centimeter of the earth's surface receives not less than 221,675 centigrade units of the sun's heat annually. Forty per cent. of this is absorbed by the surrounding atmosphere, and sixty per cent. reaches the earth. This gives seven centigrade units received per second on each centimeter, so that ninety-one square feet of the earth's surface would receive heat enough every second for the vaporization of one pound of water.—*College Courant*.

CONTROLLING BALLOONS.—While experimenting with a magnetic needle, and observing the well-known fact that when the needle is thrust through any solid body and delicately poised, the attraction of the needle is strong enough to turn the body toward the north, it occurred to me that this principle of the needle might be applied to aid in guiding balloons.

Aerouants have vainly sought for some contrivance for guiding, or preventing the rotation of the balloon. Now, suppose we construct a powerful magnetic needle, or bar, long enough to pass through and project from each side of the balloon; as the slightest influence will rotate a balloon or any other body when suspended in still air, or in a steady current of air, the magnetic bar would keep one side of the balloon toward the north, and other appliances could be used to drive it in other directions.—*Scientific American*.

ON THE BEHAVIOR OF SUPERSATURATED SOLUTIONS WHEN EXPOSED TO THE OPEN AIR.—C. Tomlinson communicates a paper to the British Royal Society, in which he states that supersaturated solutions of Glauber's salt (and also of Epsom salt, and of alum) may be exposed to the open air for many hours, and even be taken out of the flasks in clean metal spoons, without crystallizing. If crystallization occurs, a nucleus may always be found in the form of an insect, a particle of soot, etc. If, during exposure, a rain comes on, the solution crystallizes in consequence of the nuclei brought down, but if the flask be put out during a heavy rain, after the solid nuclei have been brought down, no crystallization occurs.

OZONE.—M. Loew endeavors to prove, by a long series of experiments, that the oxidizing principle of turpentine is not ozone, but a new kind of *atomistic oxygen*, endowed with some physical force, probably caloric, and which is identical with *antozone*. The author cites a curious result of the formation of drops of water on the sides of a tube, when pure essence of turpentine and dry oxygen were exposed to the sun in a sealed tube, for several weeks.

ORGANIC MATTER IN QUARTZ CRYSTALS.—Experiments made by heating smoky quartz crystals in a retort, to which all access of organic matter was most carefully prevented, gave a product containing carbonate of ammonia, which proved the presence of organic matter.

UTILIZING A WASTE PRODUCT.—Iron filings which have been used to convert nitro-benzol into aniline, have recently been applied with great success to the purification of illuminating gas.

CORRESPONDENCE.

NOTES OF TRAVEL IN MONTEREY AND SANTA CLARA COUNTIES.

BY OUR TRAVELING CORRESPONDENT.

EDS. PRESS:—One other village of Monterey county is deserving of mention; neglected in my last, which is

Hollister.

This promising village contains about 600 inhabitants, and is situated about 37 miles north of the county seat, Monterey. It is at present the terminus of the S. P. R. R. The first house erected in this place was in December, 1868. At this writing nearly every branch of mechanics is carried on; three different secret organizations flourish here. The I. O. O. F. fraternity numbers 50 members, and have a good hall, and money in the treasury.

Its Business Men.

This place contains two hotels, the Montgomery House and Exchange Hotel. The former is kept by G. B. Montgomery. The latter is presided over by H. Wagner. C. W. Wentworth, Esq., is its man of all work, being P. M., express agent, and merchant—in the latter capacity selling everything perishable, from a plow to a slate pencil, and from a blanket to a neck tie. There are some eight or ten other stores, four or five blacksmiths, saloons, notion shops, etc., to correspond. Should this county ever be divided, Hollister will stand a fair show for being one of the county seats. Hollister is 14 miles distant from Gilroy by railroad.

Gilroy, Santa Clara County.

This city of the plains is situated in the centre of one of the most beautiful and fertile valleys in the State. At present it contains 2,060 inhabitants. It is situated 28 miles south of San José, the county seat, from which place it is reached by rail, fare \$1.50 or \$3.50 from San Francisco. This place (Gilroy) is the starting point for stages for the

Gilroy Hot Springs.

situated 15 miles east. The stage for the Springs leaves Gilroy every day on the arrival of the morning train from your city, fare \$2.00. J. R. Doolittle is proprietor of the Springs. Of the Springs I cannot but repeat what has already been written of them—that is, that they rank first among the resorts for health in the State. The hotel is kept by Messrs. Roop & Twombly, who furnish first-class accommodations at from \$2.50 per day to \$12.00 per week. About 100 persons have been stopping at the Springs during the entire season this year.

Santa Clara County.

This county contains 25,205 inhabitants, which is an increase of 13,205 in ten years. Gilroy township (which extends beyond the city limits) contains 3,193 inhabitants.

Gilroy Improvements.

The town is lit by gas, put into operation on the 14th day of Aug. last. The corporation is known as the "Gilroy Gas Co.," capital stock \$24,000; President, J. M. Browne; Sec., F. Smith; Supts., Messrs. Robinson & Hitchcock; the capacity of the holder is 5,500 cubic feet. They propose to furnish 8,000 feet of gas per day; 2,500 feet of 3, 4 and 6 inch mains are now in operation.

Santa Clara Valley Flouring Mill,

situated in the town of Gilroy, is the property of Hay & Co. This mill is run by a steam engine of 30-horse power, has four run of burrs, two for wheat, and two for feed. It has a capacity of making 80 bbls. of flour per day (12 hours) besides ground feed. The structure covers an area of 125 feet square, the main portion of which is two stories high, and its warehouse will accommodate 40,000 sacks of grain. At present the town is supplied with water from an artesian well, on the premises of the company, pumped by the engine that drives the mill. The flour from this mill rates second to none in the market, (as you will see by reference to your market report), and at this writing is wholesaling at \$8 per barrel at the mill, and \$2.50 per 100 lbs is the price paid for first quality wheat; eight men are regularly employed.

Gilroy Water Co.

incorporated February, 1871; capital stock \$150,000; divided into 1,500 shares, of \$100 each. D. McKenzie, D. S. K. Buick, Martin Corcoran and W. H. Hall, incorporators and elected Trustees for one year. D. S.

K. Buick, Superintendent of construction.

The works are very extensive and costly, comprising a stone-dam in the Uras Creek, 7 miles from Gilroy, 2½ miles of flume, 18x20 inches inside, very substantially made of the best redwood lumber, sometimes located 14 feet under ground, sometimes 24 feet above ground on tressle work, at other places running through solid rock. Iron pipe, 17 inches in diameter, is laid for a distance of 1½ miles, conducting the water to the site of the distributing reservoir, 100 feet above Gilroy, which will hold 10,000,000 gallons. It is carried hence through iron pipe 13 inches in diameter 3½ miles, extending through Monterey street, to the railroad depot in Gilroy, and in smaller pipes all through the town.

The company propose constructing other large reservoirs, of sufficient capacity to furnish 3½ million gallons of water per day, during all the dry summer months, when the creeks contain but little water. They intend to apply the water to running their flouring mills, supplying the city generally, and for irrigating purposes. The works were commenced on the 15th day of June last, and are now well advanced, the main pipe having already reached the city limits, will be ready to receive water, and carry it through the town, by the time this letter is in type. These works have been well planned by Supt. Buick, economically and substantially constructed, will confer a great benefit on all the town and surrounding country, and promise to be a perfect success. The whole cost of erecting the works is estimated to be about \$65,000.

Bank of Gilroy.

This moneyed institution was started July 24th, this year. Capital stock \$100,000. Thos. Rae, Pres., J. J. Bowen, cashier. It stands first-class with the citizens, and seems to be a necessity in this community.

Its Business Men.

The two principal hotels of this place, the William's House and Hanna House, are kept by one proprietor,—"but very few men can keep one hotel," but in this case Mr. J. R. Doolittle manages to run two in very good shape. There are three lively stables affording everything in the line, at reasonable figures. C. H. Dustin, Esq., has the finest building in this line, and seems to be doing the bulk of the business. Smith & Baxter, and Korn & Co., are its principal hardware and agricultural implement men. Robinson & Hitchcock, and J. G. Anderson are its tin and stove dealers. Its principal merchants in fabrics are worth more than a passing notice; H. W. Briggs, postmaster, with a very fine location in the center of the town, has on hand an immense stock of general merchandise, and regularly employs from four to six clerks. T. W. Spring & Co. are one of those noisy kind of firms that they call auctioneers, they sell everything from a gang-plow to a needle, and how it is that they sell such things at the price they do, and live, beats me. Volney Howard & Co., do business here, similar to Heuston & Hastings, of your city; with the exception that V. H. & Co. beat the latter mentioned firm in the advertising way—for instance, they have their names always refreshing you, the street sprinkler carries their address, and the accommodated J. C. Woods, street-sprinkler, will show any one the place that can't read his sign. The streets of Gilroy are kept the cleanest, and best watered, I venture to say, of any town of the same size in the State. The Hon. H. D. Van Schaik who represented this county in 1863—in company with Mr. John Brydon—is driving a nice little grocery business here.

Sash and Door Manufactory.

Wm. Hanna, Esq., is the proprietor of one of the largest lumber enterprises here, owns a half-interest in two different steam saw-mills in the Redwoods, some eight miles west of this place, that get out 3,000,000 feet per annum, two-thirds of which is disposed of here by Mr. H.—who also runs a small manufacturing establishment, making doors, sashes, blinds, etc., employing regularly 15 men. In my next, I will give you the experience of several, and what some 25 or 30 of the principal farmers have raised in this vicinity the present season.

L. P. Mc.

Crops in Utah—Woolen Factory.

EDITORS PRESS:—Our crops of wheat, oats and barley come up to the usual average this season, but corn and potatoes were somewhat damaged by the winged grasshopper or locust. Five or six miles of the grading of the Utah Northern R. R.

are completed in sight of the place, and workmen are busy along the line from here to Logan, which will be the terminus for this winter. A temporary junction will be formed about four miles south of here with the C. P. R. R. The road touches this town and passes through the centre of the lake (now completely dry) north, crossing the divide south of Bear River into Cash Valley, and is to be extended next season to

Soda Springs.

These springs are becoming famous for the medicinal properties of their water, said to be equal to any in the United States. Our

Woolen Factory

is doing a good business, turning out beautiful jeans, fulled cloth, checks, flannels, blankets, etc. The factory is capable of making 200 yards per day. It is two stories high, the lower one built of rock and the upper of adobe. The building is 84 feet long by 45 wide. The machinery was made in North Andover, Mass., and consists of three carding machines, 48-inch cylinders; 1 spinning-jack, 200 spindles, 5 looms, 4 broad and one narrow, a shearing machine and press. The fulling, napping and scouring is done in an adjoining building and the dyeing in another. The upper room, which now only contains the picker and custom carding machine, is of sufficient capacity for another full set of machinery; the attic serves as a storage room for wool. The mill is driven by 26-inch double turbine wheels, with about 24 feet head. The total cost of the factory was \$33,000, only about \$8,000 of which was cash, the remainder of the work being done by co-operative labor.

The influence of even this little improvement is being felt in the vicinity, and the sheep interest, both as to breeds and numbers, is improving. We have had a few light showers, serving to put out fires in the mountains and clear up the atmosphere, but the weather is now beautifully pleasant.

Brigham City, Utah, Oct. 19.

Harmonized Antagonism.

EDITORS PRESS:—That such a seeming contradiction should form the text for this disquisition, shall be without apology, for the reason that the majority of readers find but little time to read disquisitions of any kind, much less apologies; and it is the earnest desire that this article should not only be generally read, but acted upon as well.

We have had within the last decade, enough war to satisfy the most sanguine; seeds of death are now so well planted, that natural causes will decimate mankind sufficiently. The greatest good to the greatest number, must be no longer a dead letter; therefore harmonized antagonisms have come to be the necessity of the age.

We are subjugating the refractory elements, outside of humanity, why not attempt the subjugation of ourselves? To cultivate the arts of peace, need not prevent a proper guard against aggression,—in order to have the ready means at hand to overawe aggression.

There are numerous ways by which the desired status can be arrived at; but one of the most important is through the general health. It is contended that perfectly healthy people, other things being equal, are more susceptible to harmonizing influences, than those who are physically otherwise. To this end then, let us turn our attention, and, in order to make every one understand that health is to be a primary consideration,—in fact, a law the disobedience of which brings in its train all the hell necessary in this world or any other, a little plain but forcible action by the people should be taken.

First, The laws that regulate and restrict sanitary matters should be so marked as to put them on an equal footing, as regards their being unequivocally understood by everybody, with any of even the simplest legal requirements.

Second, No person should be permitted to hold any office of trust or emolument of however trivial a nature, unless he is the possessor of undoubted proclivities for thorough, physical education, and some rudimentary capacity to communicate the same to others—the young especially. When this ground is taken, we may hope to see that good time drawing near, which so many of us have heard of.

A hog may be perfectly healthy, yet be a hog still; therefore, the hoggish portion of humanity should not be cultivated; in fact, every means should be made use of to discourage them, until the breed should become too much ashamed of itself to exist.

Under the last class named would come all monopolists.

To this class and two others—"those who gauge the welfare of society by the measure of money, and those who ignore any obligation, in the way of labor or sacrifice"—we are not talking, and should feel dishonored by their audience.

Until people awake to the necessity of taking such steps as are suggested by the foregoing, and select those to represent their views in our courts, legislative bodies, halls of learning, or wherever laws or morals are moulded, or made, there will be irrepressible conflicts arising that will keep the world in as disordered a condition as any professor might desire.

F. M. S.

San Diego, July 7, 1871.

EFFECTS OF CLIMATE ON FRUITS.

EDS. PRESS:—It is well known to botanists that trees and plants from a wet, or even a moist air and climate, do not prosper so well in a country and soil that is too dry and arid in its character, and that vegetation which flourishes well in countries of sandy or dry soils will, in a measure, if not equally, deteriorate in a too humid atmosphere and ground. As superabundance of moisture will cause some of our most valued cultivated fruit trees to be unduly watery, or possess soft wood or stems, and so become in a manner diseased, and of a dropsical habit, and so run inordinately into wood instead of fruit, their produce will be apt to fall before it is matured, and that which is retained will be, in its juice, watery and void of good flavor. But on the contrary condition of the case—that is, where there is not enough rain, or moisture from irrigation, if the size of fruits is not much arrested their fine qualities and rich flavor cannot possibly be obtained or brought out.

Our own California, for instance—especially in the last two seasons, which have lacked sufficiently seasonable rainfalls, (having last year rather unusual heat), and when irrigation had to be resorted to in an uncommon degree it has been seen that, although remarkable size and beauty has been obtained in the more succulent fruits, yet the desired high flavor has, in the first of the two years at any rate, been found to be more than commonly lost; whereas under circumstances more favorable to their development these same fruits would have possessed far better qualities.

Luckily for us, in our almost exceptionally splendid climate, heavy rains rarely occur at the time of the blossoming, to arrest the healthy results of the pollen on the stigmas. If anything, we have generally rather too much light and sunshine and dry heat, though these are essential to stimulate our most valuable plants. We must not go, however, into the contrary extreme and plant our fruit-bearing trees, especially the grape, in low, wet and excessively rich grounds, or upon that kind of land which has an underlay of hardpan soil, unless indeed it can be subsoiled or trenched. Wet situations can, of course, be underdrained, but in that case the extra great expense must be taken into account.

We certainly approach fortunately, pretty closely in California to that mean temperature for the year, which, although not exactly settled by botanists, is so desirable, not varying many degrees. We certainly cannot be said generally in the State to suffer much from frost, but the heat and dryness is mostly much in excess. This is what we have to judiciously regulate in a considerable degree by artificial means—at least the dryness—by systematic, or particular local irrigation. Our hardy fruit trees can hardly be said to have to hibernate during winter. We have no disastrous effects from frost which they have in so many parts of the United States and other countries.

The time is approaching when in many parts of this region the application of special manures to fruit trees and plants, will be necessary, as Liebig has wisely suggested, that the ashes of the plant will show exactly what it needs, and an analysis of soils will inform us whether they contain all the necessary elements, and in the right proportion.

Light is a great stimulant in the growth and health of vegetation. Of this we have rather a superabundance. In our powerful sun, preserving lower branches need hardly be recommended, for, it is evident it is well practiced, although it is not so needful for the stems of the trees here, as in climates where there is much frost, and also, in the summer, a hot sun.

E. J. HOOPER.

San Francisco, Oct. 30th, 1871.

POULTRY NOTES.

California Experience in Chicken Raising.

Eds. PRESS:—For nineteen years I have been watching the successes and failures in hatching and rearing chickens on this coast, and I have a few items which I propose to offer your readers.

Hatching.

If you wish to hatch eggs on a large scale, and feel willing to watch them closely day and night three weeks, then hatch by artificial heat. But first send to the office of the PACIFIC RURAL PRESS and obtain "The Peoples Practical Poultry Book," study it and talk with intelligent and experienced men. Do not listen to the thousand whims in everybody's mouth; but follow the directions of your book exactly to the moment of time and the degree of heat, by not observing which nearly all that try it fail. You may hatch out a thousand eggs at one time, more or less, and your chickens will be less trouble and more healthy than if hatched by hens, and entirely free from vermin.

After your eggs have been warm four or five days, you may select those that will not hatch. Hold them one at a time between your eye and a candle, and send to market all that look perfectly clear, retaining only those that have become clouded.

Producing Eggs—Does it Pay?

That you must decide in the light of the following facts:—A hen is supposed to eat about 60 lbs. per year. At present prices it will cost \$1.50. If she lays 60 eggs, and you get, on an average, 35 cts. per dozen you will make just 25 cts. on each hen. But when you reckon the expense of roosters and the losses by disease, vermin and thieves, you cannot hope to do nearly so well as the above estimate. Some do much better, but many much worse, owing to the difference in the breeds of chickens and the cost of feed.

Some hens will lay 80 and 100 eggs during the year; while others will not lay 20. Some persons are now feeding boiled potatoes, at from \$5 to \$10 per ton; raw onions, at \$7.50 per ton; fresh meat at 3 cents per lb.; scraps, after the lard is pressed out, at 1½ cts. per lb., and grain at a reduced price. Then they always sell their hens after they have laid two years. By all this economy they hope the income from the eggs will be more than the expense of the hens.

Diseases.

After watching the poultry stalls in San Francisco for several years, I conclude that most people get rid of their sick chickens by rushing them into market. Please make your own comments. If you hope to keep your chickens healthy do not buy a few diseased ones and mix them with your healthy ones, as many are now doing; for their diseases are exceedingly contagious. Give them exercise by placing their grain where they must scratch for it. Give them fresh air by permitting them to roost on trees or in open houses during the warm weather. Give them a variety of food—corn, wheat, barley, oats, broom-corn seed, rice, potatoes, onions, bran, shorts, red pepper, meat free from salt and every thing else they like. If they cannot find worms for themselves mix fresh meat and wheat bran together, and in a few days you will have a good supply for them.

If you have no green grass for them, moisten a lot of grain and let it sprout and thus you will have a good substitute. If you have not a good supply of running water, drive sticks at the side of the trough slanting across it so that they cannot get their feed into it, or nail the sticks to the side of the trough and thus keep the water clean and fresh. J. PETTIT.

Oakland, Oct. 24th, 1871.

ASAFOETIDA is a very good preventive for many of the ills that chickens and other species of poultry are heir to. Put a few small crumbs in their water troughs, but so covered with water or otherwise that they cannot eat it. Bulbs of garlic, thoroughly bruised, and kept in their water will serve much the same purpose as asafetida. Pulverized black pepper should also be occasionally given to them mixed with their food.

FATTING POULTRY.—Poultry of all kinds may be fatted rapidly if kept shut up in the dark. Three weeks is sufficient time to make them as fat as they can be made. In England, Dorking fowls are prepared for the London market by being shut up in the darkened coops and fed on a mixture of one pound of suet chopped fine, and one-half pound of sugar, mixed with four pounds of meal. Milk is given them for drink five or six times a day, and under this treatment a fowl will gain two pounds in weight in a week. Young turkeys fed thus have been known to take on three pounds of flesh in a week. As in our markets heavy weights are highly appreciated, it would be well for those who have poultry to feed to try this plan. Three pounds a week or even two pounds, added to the weight of a turkey from this time to Christmas, would make the bird—weighing forty pounds—worth a dollar a pound in the market; at least, birds of this weight regularly bring that price. In shutting fowls in a close coop it is necessary to place a good supply of dry earth under them every day, and to frequently remove their droppings.—*Hearth and Home.*

RAISING TURKEYS.—The turkey is the most tender when young, and most difficult to raise of all the domesticated fowls; yet with proper care in setting the eggs under game hens, (why under game hens?) and cooping the brood at night, regularly, while the turkeys are young, they may be easily reared in great abundance. Never feed the young turkeys boiled eggs or corn meal dough, or wheat-bread crumbs. They need very little food of any kind under seven days of age, and should have nothing but sour milk set in pans. At about a week or ten days old, give them wheat screenings or crumbs soaked in sour milk. Let this be their only feed till they begin to feather; then give them grain of any kind. Tie the hen, (which has the young turkeys) to a peg off to herself, with a coop near by her, so that she can enter at night for shelter. At two weeks old let the hen loose to roam, and if she be a game hen she will do the work of rearing the brood. *Prairie Farmer.*

DON'T FEED MUCH AT A TIME.—Giving too much food to poultry, in a short space of time is a very bad practice. If one notices their habits he will perceive that the process of picking up their food under ordinary, or what we may call the natural condition, is a very slow one. Grain by grain is the meal taken, and with the aggregate no small amount of sand, pebbles, and the like, all of which, passing into the crop, assist digestion greatly. But in the "hen-wife's" mode of feeding poultry, a great heap is thrown down, and the birds allowed to "peg away" at such a rate that their crop is filled too rapidly, and the process of assimilation is slow, painful and incomplete. No wonder that so many cases of choked craw are met with under this treatment. Many other diseases which affect chickens might be prevented by breeders, were a little precaution taken in the simple matter of feeding.

NESTS FOR DUCKS.—Barrels, in well-chosen places, put on their side, and well filled with hay, form nests that are readily accepted by the duck. After the duck ceases to drop its eggs and begins to lay in the nest, the eggs should not be disturbed, but she should be watched to see that there is a full clutch of fifteen when she begins to set. In rearing the young, confine the mother and all the ducklings in a pen six feet by six, out doors, and partly in the shade of trees, and here let them run. There should be in the pen a barrel with hay, for nights. In this way you will not lose a duck. Let the feed be the same as with chickens.

DIFFERENCE IN EGGS.—The Germantown Telegraph well says there is a vast difference in eggs. Hens fed on clean, sound grain and kept on clean grass run, give much finer flavored eggs than hens that have access to stables and manure heaps and eat all kinds of filthy food. Hens feeding on fish or onions flavor their eggs accordingly—the same as cows eating onions or cabbages, or drinking offensive water, impart a bad taste to the milk or butter. The richer the food the higher the color of the egg. Wheat and corn give the best color, while feeding on buckwheat makes the eggs colorless, rendering them unfit for some confectionery purposes.

WHEN the time arrives for killing chickens, whether they are meant for market or otherwise, they should be fasted without food or water for twelve or fifteen hours. This enables them to be kept for some time after being killed, in hot weather.

THE APIARY.

California Apiary.

Messrs. G. T. Harbison and partner, of Sacramento, have about 2,000 hives of bees located in that city and in one of our southern counties. A few years since it was more profitable raising bees than honey—hives selling as high as \$20 and upwards. Now the great profit is in producing honey. Mr. Harbison has been very successful in importing Italian bees, and they have proved after due trial, to be the best honey makers in the state.

Harbison & Co. are now crossing the swarms so as to change the whole stock. By strategy these apiarists can rear at will from each swarm an extra number of queen bees. Thus they change very rapidly from the common stock to the Italian bees. We wish Mr. H. would correspond and tell us some interesting things learned in his extensive experience on this cost, embracing many facts and hints which could not fail to be of value to bee culturists at home and abroad. Mr. H. is a pioneer in this business. The samples of honey produced at his apiary and shown at the State Fair, were fine and luscious looking, clear and white, and doubtless unequalled in purity and quality by the product of any other section of the world.

A patent bee hive is one of the improvements made by Mr. Harbison in the course of his business. It is cheaply constructed, and a convenient and economical article. As we have lost our notes concerning it, we advise him to send drawings of the hive for illustration in the PACIFIC RURAL PRESS.

Boiling Honey.

Mr. J. L. Hubbard writes as follows to the *Bee Keepers Journal*:—I once boiled about thirty pounds of honey to improve its consistency and flavor. The result was a jelly as dark colored as any Porto Rico molasses—of course wholly spoiling it for the ordinary uses of honey. It was perhaps boiled gently fifteen minutes, and skimmed thoroughly; and the more it boiled the more scum arose.

Part of it was buckwheat honey, and I have since noticed that heating injures buckwheat honey more than it does clover honey.

Honey is however often improved by heating it. When it has commenced to candy, a good heating arrests that process for a time; and it will purify it after it is thoroughly candied, but in that case it is well to add as much water as will be lost from evaporation, and no more.

It is sometimes desirable to remove honey from the combs before it is sealed over, or a sufficient amount of the watery part evaporated. This honey (this is not theory, but personal observation,) is thin and watery, and not of as good flavor by a good many degrees, as that taken from sealed combs. Such honey would undoubtedly soon spoil the market for extracted honey. It is greatly improved by a slow and moderate heating in an open vessel.

I think that the heat beside throwing off some of the unpleasant flavors, keeps it from souring, and arrests that process in its first stages.

The best way that I know of for heating it, is to put the honey in a tin or zinc vessel, and set this on a kettle of hot water. I have sometimes set the pail containing it on some bricks which were laid on the stove. The object is to avoid burning the honey by too much heat. Not having used a thermometer, except my hand, I cannot tell how much it can be heated without injury, but think it may be from 180° to 200°. It seems as though we ought to have a cheap evaporator or condenser for this purpose.

It may be well enough to talk about selling comb honey for \$1 per pound, and machine honey for 25 cents, but as that is all theory and impracticable, it will be of no use. Some people do not care whether it is better or not, but pay for the looks, and for an educated, or perhaps prejudiced taste.

It is probably true that beeswax is of no use in the human stomach, but rather an injury; so also it is with rum and tobacco, but people freely pay more for these unwholesome than for educational purposes.

In one as in the other, we must apply more education, or of a different kind.

THE SHEEP FOLD.

Curing "Scab" in Sheep.

Mr. Thomas McCounell, of Elk Grove, Sacramento county, called our especial attention to his fine lot of merino bucks and ewes at the recent State Fair, and in the course of conversation gave us his process of curing the "scab" when it had touched his flocks. After shearing in the spring he immersed the sheep affected, in a solution made of from 500 to 600 lbs. of tobacco leaves or the stems of leaves (obtained from cigar makers at from 4 to 6 cts. per lb.) steeped, and kept about as hot as the hand can bear. To this he adds 75 lbs. of sal soda. It is placed in a vat, the bottom of which is shaped something like



the line of the accompanying engraving. The vat is placed in an excavation in the earth and is about 16 inches wide and four feet deep at the end where the sheep are plunged in. The level bottom extends some 20 ft., when it gradually rises for a distance of 24 feet, widening out into a platform of suitable size for the animals to drain on. In about ten days he repeats the process and then turns his sheep into a new range, and they are troubled no further with the scab.

Mr. McConnell has practiced this method for years, and we believe he is one of the most successful wool growers and sheep raisers in the State.

Another Method

of curing this troublesome disease is recommended by Mr. J. A. Culberrn, of Sacramento City. It consists of 10 gallons of hot or cold water; 5 lbs. tobacco; 1 lb. corrosive sublimate; 2½ lbs. blue stone, to which may be added 2 lbs. of sulphur. Applied with a swab to the parts affected. This is a simpler process than that of Mr. McConnell, and if as effective, would seem preferable.

Rules for the Care of Sheep.

1. Keep sheep dry under foot with litter. This is even more necessary than roofing them. Never let them stand or lie in mud or snow.
2. Take up lamb bucks early in the summer, and keep them up to December following, when they may be turned out.
3. Count your sheep every day.
4. If a ewe loses her lamb, milk her daily for a few days, and mix a little alum with her salt.
5. Let no hogs eat with the sheep, by any means, in the spring.
6. Never frighten sheep, if possible to avoid it.
7. Sow rye for weak ones in winter if you can.
8. Separate all weak, or thin, or sick, from those strong, in the fall, and give them special care.
9. If any sheep is hurt, catch it at once and wash the wound, and if it is fly time, apply spirits of turpentine daily, and always wash with something healing. If the limb is broken, bind it with splinters tightly, loosening as the limb swells.
10. Keep a number of good bells on the sheep.
11. Do not let the sheep spoil wool with chaff or burrs.
12. Cut tag locks in early spring.
13. For scours, give pulverized alum in wheat bran; prevent by taking great care in changing dry for green feed.
14. If one is lame, examine the foot, clean out between the hoofs, pare the hoof if unsound, and apply tobacco with blue vitriol boiled in a little water.
15. Shear at once any sheep commencing to shed its wool, unless the weather is too severe, and save carefully the pelt of any sheep that dies.
16. Have, at least, some good work by to refer to. This will be money in your pocket.—*Farmer's Union.*

SHEEP IN AUSTRALIA.—The following figures will show the progress of the sheep industry in Australia during the last ten years. It will be seen the numbers have been almost tripled during that time: 1861, 6,119,169; 1862, 6,550,896; 1863, 7,169,126; 1864, 9,089,463; 1865, 9,650,106; 1866, 11,644,593; 1867, 15,066,377; 1868, 16,000,000; 1869, 16,848,217; 1870, 16,217,896.

AGRICULTURAL NOTES.

CALIFORNIA.

SIERRA VALLEY.—The farmers of Sierra Valley are sending their grain-fed pork to Virginia City. Some of the ranchmen in that valley are feeding large herds of swine this fall and it is thought they will find a ready market in Washoe for all the hogs they can take there.

VINEYARDS ABOUT CALISTOGA.—The Calistoga *Tribune* has been inspecting the vineyards thereabouts, and find everything prosperous and satisfactory. D. W. McCrory, at Walnut Grove, already has 5,000 gallons of wine in the fermenting vats and will add 3,000 more. Jacob Schramm near White Sulphur Springs is picking and pressing, and expects to turn out from 5,000 to 7,000 gallons. Marcus Lowell, of the Calistoga Vineyard will manufacture over 20,000 gallons. Mr. Lowell has invented an improved filter. Roman Port is a specialty which is considered a very superior article of wine.

WHEAT EXPORTS FROM VALLEJO.—The *Chronicle*, Sept. 28, says: Four vessels, the *Woosung*, *Doune Castle*, *Rokeby Hall* and *Austria* have loaded with wheat for foreign markets at Vallejo, to the present date, carrying cargoes valued at \$286,300. At this date last year, 25 vessels had loaded carrying 740,642 cents wheat, valued at \$1,352,857. Prices so far have averaged this year \$2.40 per cental; last year the average was \$1.80. Only fifteen vessels have loaded this season with wheat from California ports.

WOOL AT SACRAMENTO.—The *Sac. Bee* of 25th says the steamer *Flora* brought down the day before 80 bales of wool consigned to Maj. Robt. Beck, to press and ship eastward, by L. J. Orcutt, of Boston, who is in the interior purchasing. This is the second year Mr. O. has visited California for this purpose. Last year his shipments equaled 230,000 lbs, and this year 400,000 lbs. In saving of shipment, drayage, insurance, commissions and receipt of quicker returns, there is no point that presents greater facilities or advantages over Sacramento, and we are glad to state that purchasers of this valuable staple are recognizing this fact. It is estimated that by finding market for wool here the growers thereof will save a cent and a half per lb. Wool packed and pressed occupies but about one-third the space of the same quantity in the ordinary sacks, and the plan is becoming deservedly popular.

DOGS IN THE MANGER.—The work of raising the dykes protecting the reclaimed tule on the west side of the Sacramento river above Knight's Landing, has advanced nearly to completion. According to the *Alta*, much ill-feeling prevails in certain districts along the Sacramento, where reclamation has not been attempted, because the farmers expect that they will be troubled much more by floods than they were when a wide plain was left open to the current. Some of the residents north of the Butte Creek embankment make no secret of their intention to cut it if it should turn the flood back upon them. They have had an equal opportunity to reclaim, but their malicious destruction of the dyke that protects their neighbors would be in keeping with their neglect to protect themselves. They not only refuse to reclaim their own lands, but they will not permit any body else to reclaim in their vicinity if they can help it.

GRAIN IN COLUSA.—There has already been seeded, says the *Colusa Sun* of Oct. 28th, a greater area of wheat in this county than has ever before been sown. If the season shall be good, the county will have a surplus not short of two millions of bushels.

FRUIT IN EL DORADO.—Fruit raisers, says the *Placerville Democrat* of the 18th instant, are all busily getting their fruit to market. It is estimated that four or five tons daily have been shipped from Colusa and vicinity during the present season. Robert Chalmers expects to crush and press into wine and distill into brandy about five hundred tons of grapes. He has already crushed nearly three hundred tons. His still has a capacity of one hundred and fifty gallons per day, and he can crush from ten to twenty tons of grapes per day, but he finds it impossible to get casks and tubs sufficient, there being none to be had either in Sacramento or San Francisco, and he is compelled to wait until they can be made.

GRAPE GROWING IN MENDOCINO.—D. W. Bailly, of Little Lake, says the *Mendocino Democrat*, of Oct. 22d, planted about four years ago one hundred grape vines as an experiment. This year those vines are

literally loaded with fruit, and the quality is equal to any in Sonoma or Los Angeles counties. We see no reason why Mendocino may not become a grape growing and wine making county, as there are thousands of acres just suited to the culture of grapes, and which can be bought at one-fourth the price asked for the same quality of lands in the lower counties.

A PROFITABLE CROP.—On the Pigeon Ranch, about one mile from this city, says the *Marysville Appeal*, the proprietor has raised a fine crop of beans this season. He has about twelve acres of the white variety, which have yielded well. He is now engaged in drying and threshing them—using the open yard for the floor. The ground has been cleared of all weeds and leveled, and on this the bean straw is spread out to dry. It is turned daily until thoroughly dried, when the beans are easily rattled out. The raising of this crop will be found to be very profitable one season with another, as it is less susceptible to the changes of climate than grain. There is a steady demand for this kind of produce and that at good paying prices. There is a great deal of suitable land lying along the rivers, which is idle now that might be made to yield a handsome income if planted to beans. Mr. Fox, on this ranch, does not fail of having a crop each season, with a portion of the expense attending grain culture and none of its uncertainty.

STEAM PLOWING.—The Thompson road wagon has been used with success to draw two gang-plows, each with four shares, cutting together a strip seven feet wide, near Stockton. It plows 25 acres per day, with less expense than horses, and gives entire satisfaction in every way, according to the report of the *Stockton Independent*. That paper says that Mr. S. H. Brannock is using one of the steamers regularly, and, with two gangs of four plows each, plows from 25 to 30 acres of land daily. The breadth of ground cut by these two gangs of plows is seven feet, and the steamer draws them along steadily and rapidly and without any difficulty whatever. The expense of plowing in this manner is found to be much less than by the ordinary method of using animals. No difficulty whatever is experienced with the steamer on uneven ground. It travels over sudden and sharp elevations and across abrupt depressions of the land as easily apparently and with as little interruption as are its movements along a graveled street or turnpike.

One very great advantage which the steamer possesses over teams of horses or oxen is that in clearing land, the steamer can be readily detached from the plows, and fastened to a newly felled tree, which is bodily removed by the machine to any desired part of the field. In work of this kind the wonderful power of the steamer is shown even better than in plowing. It will haul off a large oak tree, trunk and branches together, with as little apparent difficulty as it would travel with a brush harrow. We are told that Mr. Brannock, after having given the steamer a more extended and thorough trial than it has heretofore had in this section of the State, is well satisfied with its working power and its adaptability to the heavy labor necessary to be done on a well managed farm.

EXTENSIVE PLANTING PREPARATIONS IN FRESNO.—The *Millerton Expositor* says that Mr. Easterby is making extensive preparations on Fancha Creek to put 2,500 acres in wheat. The preparations are being made on a grand scale. A number of of the men are engaged irrigating the lands, and as fast as the moisture is absorbed it will be plowed. The canal proves to be of great benefit in preparing the soil, and only proves what can be done with our heretofore wasted streams. Mr. Loehse, of Contra Costa, who has charge of the operations, is a practical farmer and feels sanguine of raising large crops, with a good season. He predicts a realization of 50,000 sacks of wheat. This enterprise is regarded with much interest in that vicinity, as one which, should the season be a dry one, will prove that wheat growers in that region can produce good crops, irrespective of dry seasons, wherever they have facilities of irrigation.

THE GRAIN CROP OF TULARE.—The *Visalia Delta* says:—In the absence of reports by the assessor as required by law, which will not be due till spring, we may perhaps approximate the yield by the amount threshed by the different machines, one of which cleaned 27,000 bushels, supposed to be about an average. There were seven machines employed this season. Besides these, a considerable amount has been threshed in other ways, by trampling, etc., in the mountain districts where machines could not be had. We shall not, there-

fore, we think, be above the correct figures by setting the yield at 200,000 bushels. Our threshers can perhaps give us better margins, and the amount of wheat and barley separately. We should like to hear from them.

IMMENSE YIELD OF BEETS.—The *Castroville Argus*, of Oct. 28th, says:—For the past year or two the cultivation of the sugar beet has been the subject of much comment by the press, and has also given rise to practical experiment, which has proven highly satisfactory. As the establishment of factories for sugar making in other parts of the State has been a success, we desire to call the special attention of all interested in beet culture to the following facts, as showing how the plant thrives in this vicinity. About a mile from Castroville, on the Cooper ranch, Dr. E. J. Martin had seeded in sugar beets nine acres of land, from which have been taken during the past two months four hundred tons, used for feeding hogs, and it is estimated that there yet remain upon the same productive parcel of land about fifty tons—an average of fifty tons of beets to the acre. We hope these suggestive figures will receive due consideration from men of enterprise and capital.

LARGE APPLE.—The *Argus* has received from Mr. S. McAdams, of Marysville an apple of the "Gloria Mundi" variety, which measures 14 inches in circumference.

FIVE HUNDRED TONS TO THE ACRE.—N. J. Kitchen, of Watsonville, raised this year 500 tons of pumpkins on 20 acres of land, ranging in weight from 20 pounds to 250 pounds each. The crop was sold for \$1,000.

A LARGE LAND OWNER.—Jesse D. Carr is the lucky owner of the Gabilan Rancho, near Salinas City, containing 49,000 acres and embracing mountains, valleys, rivers, lagoons, fine timber, and level plains. It is stocked with 160 head of horses, 50 head of fine cattle, 800 half-breed Cashimere goats, 9 full-blooded bucks, and 20,000 sheep, mostly Merinos. Mr. Carr obtained 33 cent per pound for last year's clippings. There are other large ranches around Salinas aggregating 140,300 acres.

LOS ANGELES WOOL.—Our leading wool-buyers report the fall clip as very much lighter than usual, and the wool itself inferior in quality, though cleaner and less burry than it generally is. The cause both of the falling off in the amount and the deterioration in quality, is doubtless to be found in the unfavorable seasons and the consequent removal of many flocks to remote mountain valleys where no facilities are afforded for shearing.—*Los Angeles News*.

TALL CORN.—The *Anaheim Gazette* says that Texas corn grows to the height of 23 feet in Los Nietos and yields 140 bushels per acre.

THE RESULT OF IRRIGATION.—Mr. Loehse has shown the editor of the *Expositor* a bunch of filaree, the leaves of which measured ten inches in length. The land from which it was gathered had been irrigated some six weeks since, for the purpose of getting it in readiness for plowing, and this, for the season of the year, remarkable growth of this succulent weed, is the result of said irrigation. Mr. Loehse says the sample which he showed was not a culled specimen, but that it was a common average of upwards of a hundred acres. The result that has been attained by irrigating in this county we think is sufficient to convince the most obstinate opponents of farming in Fresno county, that a most glorious and prosperous future awaits our county, agriculturally. The immense irrigating system that is being perfected in this county by our energetic land owners, will accomplish this result, and when the vast network of irrigating-ditches that are now contemplated, and, in many instances, projected, are completed and in successful operation, Fresno will be second to no county in the State in an agricultural point of view, for our farmers will be able to raise crops, whether it rains or not.

NEVADA.

STATE FAIR FOR NEVADA.—The *Carson City Register* of the 25th ult. says:—The subject of holding an annual State Agricultural Fair in this city is being agitated throughout Carson and Washoe valleys. The plan suggested is, to raise by subscription (among farmers and others) a sum sufficient to enable the society to offer liberal premiums for the exhibition of Nevada products, and then to ask the Legislature to make a reasonable appropriation in furtherance of the object.

It is proposed to hold the first State Fair in September or October, 1872, the first season following the next session of

the Legislature. The subject is one that ought to enlist the serious attention of every citizen of the State. The enormous returns of our soil for the labor of the husbandman and the remarkably fine quality and flavor of cereals, vegetables and fruits, point to Nevada as destined to be one of the leading agricultural States of the Union at no distant day; and steps ought to be taken whereby the experience of each farmer may be brought to the attention of all.

OREGON.

HINTS FROM SOUTHERN OREGON.—A correspondent of the *Willamette Farmer*, writing from Roseburg, Sept. 26th, says:—As the crops, excepting corn and vegetables, are all gathered in by this time, it becomes the farmer to take lessons from the past, and try to improve in the future. My grain ripening at different times last year, enabled me to cut for some of my neighbors who had no reaper, and in every instance whenever I would come to a portion of the field where the grain was much heavier than in other places, and inquire into the cause, I invariably found that the owner did not think it owing to any extra quality of the land, but to extra cultivation. The crop previously had been corn, beans, or potatoes, which required cultivation, which speaks volumes for a system of rotation of crops, and, in fact, unless there is a change made in this direction, lands in this part will not pay for cultivation.

The farmers hereabouts have been raising a white winter wheat, year after year, and in many instances on the same ground plow in the stubble and sow the seed from the same field, until they do not much more than realize the seed sown. It is so near run out that where it is put into clean ground and properly attended to, it does not yield more than half as much as formerly, while those farmers who have taken the trouble to change their seed reap, remunerative crops.

JACKSON COUNTY FAIR.—The *Times* of Oct. 7th, says: The exhibitions made at the County Fair this week have demonstrated the fact that Jackson county can sustain an agricultural society and can hold a county fair, which will bear comparison with any in the State. The exhibition of stock, including horses, cattle, swine, etc., does great honor to the county as a stock-producing region. The cereals on exhibition abundantly prove the fertility of our soil, while other departments of industry represented in the pavilion, demonstrated that our people are awaking to the natural resources of our country.

Dennis Crawley, just in from Link river informs us that the settlement in Link river is in a most flourishing condition. He reports extraordinary crops of vegetables, planted since July. The school at Link river rejoices in 26 scholars.

Hon. J. N. T. Miller, Swamp Land Commissioner, informs us that he has selected about 100,000 acres in the Big and Little Klamath lakes. His party are now engaged in surveying Pelican Bay, in the Big Lake.

FRUITS OF JACKSON COUNTY.—The traveling correspondent of the *Bulletin*, of this city, recently wrote as follows: I have visited several vineyards in the neighborhood of Jacksonville, and I have found them in a very favorable condition, laden with every variety of grapes. Some of these vineyards are from ten to fifty acres in extent, and are being cultivated extensively. One of the small vineyards produced 700 gallons of wine last year. The soil, climate and foothills of Jackson county are admirably adapted for grapes. There is now no doubt in the minds of intelligent men here but that this country will be as distinguished for wines and grapes, peaches, plums, cherries and currants, as it is for the production of herds and flocks, wool and hogs.

THE STATE FAIR.—Oregon's great "Feast of Tabernacles," says the *Willamette Farmer*, has come and gone once more and the people must look forward. The lessons of the past should be studied, not with the view of fault-finding, but to the end of improvement. Everything betokens to Oregon a year of industry and that means a year of progress and success.

The receipts of the Fair amounted to about \$14,185, or an increase of some \$300 over the Fair of 1870.

The Swamp Land troubles in the Klamath Lake section of southeastern Oregon, are likely to result in considerable trouble before long, as the settlers there are determined to maintain their claims in opposition to the grabbers.

There are nearly 35,000 school children in Oregon.

NOTICES OF RECENT PATENTS.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

FRUIT BOX.—C. W. Weston, San Francisco, Cal. The object of this invention is to provide a cheap and convenient box or basket for the transportation and sale of small fruits and berries, so that packages of different sizes can be delivered directly to purchasers without handling the berries or fruit and thus injuring them more or less. It consists of two thin veneers crossing each other at right angles and turned up so as to form a box as is now commonly done; but by forming a sort of channel near the top, the ends of the veneers may be turned over a wire which serves to hold them together and may be of any length to suit any size of box instead of being confined as at present to one size, dependent upon the size of the fastening now employed.

MINING SLUICE AND RIFFLE.—C. J. Garland, Gwinn Mine, Calaveras County, Cal. The object of this invention is to provide an improved sluice or riffle for the purpose of saving the float gold and amalgam, which is now to a great extent lost from the difficulty experienced in bringing the minute particles into contact sufficiently close to insure amalgamation. This invention accomplishes the desired end by means of plates or semi-obstructions so placed as to cause a breaking up and diverting of the current from one side to another of the sluice.

IMPROVEMENT IN STEAM PLOWS.—Oliver Hyde, Oakland, Cal. This is one of the many patents taken out by the above named gentleman, all of which tend to the perfection of a steam traction engine and plow. The present invention relates to a novel construction by which the cutters are so attached to the frame work and driving power of the machine that each cutter shall have an independent movement vertically. This movement is intended to fit the machine for plowing over rough uneven ground, and is effected by means of a transverse sleeve upon the main driving shaft, by which the driving gears are kept in contact while the cutter shaft is allowed a motion about the main shaft as a center. The rear end of the driving shaft passes through a box which is provided with trunnions and moves loosely in a square opening in the frame so that the movement of each of the cutters is free and independent.

Decease of Distinguished Scientists.

We are called upon, this week, to announce the death of two leading men in the scientific world:—Charles Babbage, the eminent mathematician and Sir Roderick Murchison, the great geologist, geographer, and natural philosopher.

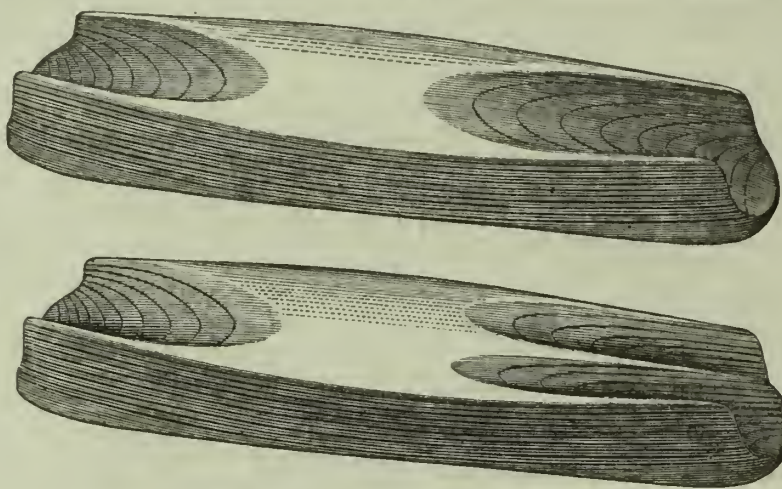
SIR RODERICK I. MURCHISON, was born at Faradale, Ross-shire, Scotland, in 1792. He received a portion of his education at the Durham grammar-school and entered the military college at Marlow, in 1805, leaving it two years subsequently on receiving a commission in the army. In 1828 he accompanied Sir Charles Lyell in a geological tour among the extinct volcanoes of Auvergne. After exploring the Eastern Alps he published a memoir on the subject, accompanied with a geological map in 1829. In 1835 and 1839 he explored the Rhenish provinces, and in 1840, in company with Mr. de Verneuil, a French geologist, he set out for Russia to investigate the geological formation of that country, hitherto very little known.

He published the result of his several expeditions in a magnificent volume, entitled "Geology of Russia and the Ural Mountains." His principal work, and that best known to the American public, is "Siluria: the History of the oldest known Rocks containing Organic Remains, with a brief sketch of the Distribution of Gold over the earth," published in 1854. He predicted the existence of gold mines in Australia long before they were discovered. His hypothesis of the configuration of the

African continent received confirmation by the discoveries of Dr. Livingstone.

Sir Roderick Murchison was at the time of his death President of the British Geological Society and Director-General of the Geological Survey, as well as a member of various scientific societies throughout the world. He always manifested great interest in the Gold Fields of California and took much pains to gather information on geological subjects connected with our State.

CHARLES BABPAGE is best known as the inventor of a calculating machine, which is intended to substitute for mental calculation the more precise principle of mechanism. After a tour in Europe with a view of studying the various pieces of mechanism employed in the arts, he published his "Economy of Manufactures and Machinery." He was appointed, in 1828, Professor of Mathematics at Cambridge University. He introduced his calculating machine in 1833, and its value may be estimated from the fact, that a table of logarithms of all natural numbers, ranging from 1 to 100,000, was produced, free from error, by its agency. Mr. Babbage was a member of nearly all the learned societies of Europe and America.



WINGARD'S NEW CONSTRUCTION OF VESSELS.

He was one of the founders of the Royal Astronomical Society, and of the British Association for the advancement of science. *Omnes una manet nox et calcanda semel via leti.* "There remains a common night to all, and the path of death must by all be trod."

WHITE SAGE.—It is a well-known fact among the stock-raisers on the Pacific Coast, that white sage possesses unequalled properties for fattening stock. It imparts a peculiar rich flavor to meat thus fattened. In the fall after the grasses have dried up or have been killed by frost, is the time this herb becomes sweet and the stock commence feeding on it, and they continue to do so until the grass again begins to grow. If it was not for this sage, all the stock range between the Sierra Nevada and Rocky mountains, now supporting thousands of head of cattle would be useless, and the feeding of stock would become necessary. Our correspondent "W. H. M.," has called our attention to the fact that it is becoming known to be of importance in this respect, as well as in others. It is said to possess great virtues as a restorative of the growth of hair. With this in view, Mr. J. A. Huntsman, of Battle Mountain, is extracting some of the special properties of this plant and combining them with other ingredients of known value in this respect, forming a compound known as *alba salvia*. The countless acres of white sage on the plains of Nevada, hitherto considered worthless, may yet be of great value to us in more ways than one.

A THOMPSON ROAD STEAMER is now employed in hauling lumber for Wm. P. Dougherty & Co., from their mills in the Santa Cruz mountains to their lumber yard in San José.

Wingard's New Construction of Vessels.

It has long been a recognized fact among engineers, ship-builders, and sailing-masters that a flat-bottomed or scow-shaped hull for a vessel under certain circumstances of construction, the secret of which was a mystery, was better suited for fast sailing than the ordinary deep and sharp model now used.

Mr. Wingard believes that he has discovered the secret of constructing the scow-shaped hull, upon fixed and permanent rules, so as to combine the natural advantages of the flat-bottomed hull with those of our sharper built vessels.

The engravings presented herewith represent his plan of construction. The forward end of the boat may be provided with two or three cutwaters and the intermediate space between them is hollowed out upon an incline, so as to extend a short distance toward the middle of the bottom, where it gradually merges into the flat-bottom as shown. The cutwaters are constructed upon fine lines, and the intermediate channel is made on regular curves so that as the vessel advances the water will be drawn through the channel to the middle of the bottom and thus buoy up the

vessel. The stem of the boat is provided with two cutwaters with an intermediate channel which serves to free the water from under the vessel. In seagoing vessels three of the cutwaters at the forward end will be preferable as the center one will serve to break the force of a quartering wave.

Vessels of this construction are more particularly adapted to the shoal waters of our inland rivers on account of their light draught.

By thus constructing the hulls of vessels there will be less displacement of the water, and consequently less resistance to the forward progress of the vessel, and by being constructed upon sharp lines and in the peculiar manner above described, it is anticipated that it will be capable of carrying a greater weight with increased speed and draw less water than vessels of the ordinary construction. A patent has been obtained for this invention through the Scientific Press Patent Agency, by Adam Wingard. For further information address the patentee, T. B. Wingard, 318 California street, San Francisco, Cal.

PAY YOUR POSTAGE.—We have had a few complaints from parties that claim to have sent us notices from whom no letters ever arrived. Lately, from one such person, we have received a letter which had been held over a month from the careless omission of a postage stamp. We presume many supposed miscarriages of letters can be thus accounted for.

COAL OIL IN RUSSIA.—A coal oil deposit has been discovered at a point about 150 miles southeast of Moscow, Russia, and extensive machinery is being erected to refine the same. The wells do not appear to be flowing, as the oil is "raised."

Mechanical Progress.

Reader, did you ever stop to inquire what the condition of the present age would be were it not for the steam engine and the telegraph? No doubt you have often thought: "What a great thing the steam engine is;" or, "How convenient the telegraph;" but their real value to the world can only be arrived at by imagining ourselves deprived of their present use.

Without the steam engine our travelers would be compelled to ride on horseback as the most expeditious method of going from place to place. By this means an ordinary trip across the plains would consume a large part of a year, and would be fraught with trials and sufferings such as can be realized only by those who have made such a journey. Instead of receiving a daily mail, seven days from New York, we would have to go back to the old pony express, and wait two or three months to receive a reply to a letter written to our friends in the East. Instead of "A trip across the world in ninety days," we would have to wait for wind and tide, and in an ordinary sailing vessel make the voyage at the expense of two or three years. Not only is the steam engine a great convenience for travelers, but its power is exercised in constructing our cities, our docks, our public works; in fact, it would be hard to mention any department of business in which it is not employed.

Without the telegraph, business men, especially importers and exporters, would be doing a grand lottery business half the time. By means of the telegraph we are enabled to converse with friends thousands of miles away, in the space of a few moments. Hardly had the fire which recently swept away a great portion of the city of Chicago, fairly commenced to burn, ere the telegraph announced to almost every part of the world the fact; and as the dire calamity progressed, the telegraph transmitted to the waiting thousands the hopes, the fears and doings of the people, and the chances of saving the city; and ere the ruins had ceased to burn, the same telegraph sent back cheering words of comfort to the homeless and houseless sufferers.

Without the railroad and the telegraph the United States would be too large to be held under one confederation. By its means a continual circulation of its population is kept up which induces friendship and a fellow feeling. We are now as a single neighborhood, able at any moment to communicate with our neighbor, or jump aboard the cars and make him a call. By being able to do and act speedily, wrongs are redressed and rights established, where otherwise the wrong would slumber and the right be suppressed until open rupture would end all.

Take away the steam engine and the telegraph, and render their invention impossible, and we put our foot upon progress, and doom the world to an unsocial, cold and gloomy barbarism, during which the dark ages would repeat themselves, and mankind be little better than the brutes.

SHIP BUILDING IN ENGLAND.—It is reported on good authority that there are no less than 5,000 vessels, of various grades, now in process of construction in Great Britain. The larger number are being built of iron, among which steamers preponderate. A very large proportion are being built with special reference for making the voyage to India via the Suez Canal. The English are determined to leave no effort untried to keep their hold on the vast carrying trade of India and China. California and the Pacific Railroad will have to be up and doing if they would divide this business with our cousins over the water.

A quaint old Scotch proverb runs thus: "An ounce of mother is worth a pound of energy."

USEFUL INFORMATION.

Composition of Milk—Butter Globules.

Natural milk forms a liquid containing salt, sugar, casein and fatty globules. The three former are in solution, while the latter, from which butter is formed, is held in suspension, and not in solution. These fatty globules would soon enter into and form a part of the solution, were it not for the fact that they are contained in and protected by membranous envelopes. Were it not for this peculiarity of the fatty globules or butter being contained in cells or sacks, a very good article of artificial milk might be made; but as it is we must renounce for the present, and probably forever, all pretensions to the possibility of such an artificial fluid.

The separation of butter from the milk is simply the breaking of these membranes, and the agglutination of the contents of the individual cells into masses. The microscope distinctly separates and reveals the existence of these butter cells. If we examine with the microscope the milk, soon after the process of churning has commenced, we see the globules still retaining their form, dimensions and aspect. If we make our examinations a little later, we behold minute, irregular masses of butter floating in the body of the milk; still later we notice that these minute masses are aggregating and forming larger ones, like a snow ball gradually increasing by being brought in contact with new particles of snow, until at last we have the mass of butter—the object of the operation. The object of the churning is to break the membranes, so that the aggregation may go on.

To the contrary of the above, however, perhaps it should be stated that Dubrunfaut, a French author, denies that the butter in milk is enclosed in a membrane surrounding the globules; since he can produce, by emulsifying a fluid neutral fat in a slightly alkaline fluid like the whey of fresh milk, a liquid closely resembling milk and showing under the microscope, butter globules. He proposes to make an artificial milk by dissolving in half a litre of water, 40 or 50 grms. of saccharine material (milk-sugar, cane-sugar, or glucose,) 20 to 30 grms. of dry albumen (prepared from dry white of egg,) and 1 to 2 grms. soda crystals; then to emulsify therein 50 to 60 grms. olive oil or other edible fat.

We believe that Mons. Dubrunfaut has never yet accomplished what he "proposes" to do, as above.

ACIDULATION OF CHICORY WITH PEAT.—Chicory is being extensively adulterated with peat, in Europe, and the French savans are endeavoring to discover a ready test for such mal-practice. Contrary to the first supposition, this has been found a very difficult work. On boiling peat with chloroform, a yellowish solution is obtained which, on evaporation, leaves a brittle residue, similar in all respects to bitumen. Chicory contains nothing like this. Hence Mr. Swarts reasons that the presence, in chicory, of a bituminous substance, is a certain proof of adulteration either by peat or some analogous substance. As chicory has come to occupy so important a place for domestic use in connection with coffee, it is proposed that a legal penalty shall be enforced upon this imposition.

SUGAR AND IRON.—It is well known that it has not hitherto been possible to transport sugar in iron ships; and at a late meeting of the British Royal Society, a discussion took place on this subject which elicited some curious facts with regard to the action of sugar on iron. During the discussion Dr. Calvert stated that he had discovered a very simple method which entirely prevented the action, and he had no doubt that henceforward sugar would be as safely conveyed in iron ships as in wooden bottoms.

WHAT WOMEN EAT.—It is a popular belief that women eat nothing. It is of course conceded that they sustain life by the consumption of some article of nourishment; but eating, in the whole acceptance of the word, is supposed to be foreign to female nature. This fallacy is founded and sustained by women themselves, who, during the affected period of their lives, cultivate small appetites as being of semi-angelic construction. When this pernicious nonsense is conscientiously carried out, the results upon the would be angels are squalor, red noses, certain loss of vigor, general limpiness, and some other unpleasant consequences. But, as a rule, the smallest appetites at the fashionable tables are exhibited by those shrewd girls whose natural and healthy wants have been thoroughly appeased by secret stuffing. Need we refer our readers to the historical poem concerning Violante in the pantry, gnawing of a mutton bone, reminding them how she gnawed it, how she clawed it, when she found herself all alone?

All this is a direct deceit, however, practiced upon unsophisticated old bachelors, who, when they have made the dainty creatures theirs, find out by the butcher's book, an ocular proof, what sturdy trencher-women they have married. Watch a healthy girl at supper, during the intervals of dancing; she consumes by installments four times as much as her partner, and seems, none the worse for it. Our experience tells us that women eat, in proportion to their weight, as much as men, and are no more fairies in this respect than in the matter of weight.—*Appleton's Journal*.

ABALONE MEAT—A NEW ARTICLE OF FOOD.—The shipment of abalone meat to this city promises to become a matter of considerable importance. There are engaged at present in the business of taking and drying abalones, on the coast of Lower California, quite a number of Chinamen, who manage to procure about six tons per month. The abalone is found attached to the rocks; and in extreme low tide in greater quantities than at any other time. The fish, covered by the shell, adheres to the rock as tightly as if glued to it, and is cut loose with a sharp instrument carried by the Chinamen. After filling a large bag with the meat, which is removed from the shell, it is carried to the place chosen to dry it, and is there treated in the same manner that a tough beefsteak is in a first-class boarding-house—that is, it receives a good pounding. After this beating, the meat is thrown into a large kettle and boiled for a short time; then it is spread out to dry in the sun. After a thorough drying, it is nicely packed in strong sacks and shipped to San Diego, to be re-shipped from there to the Chinese merchants in San Francisco. The meat commands in this city from five to six cents per pound, and is used exclusively by the Chinese. A considerable quantity is shipped to China, where it is regarded as a great luxury, being only used by the better class of people in that country.

MACHINE-WORK VS. HAND-WORK.—A paper at a recent meeting of the Institute of Mechanical Engineers, on Self-acting Machinery for knitting hosiery, supplies another to the many striking comparisons that have been made between hand-work and machine-work. A skilled knitter, using the ordinary needles, will knit sixty loops or stitches in a minute; a frame-work knitter, with his hand-frame, knits about 5,400 stitches in a minute; but three of the self-acting machines, described in the paper, which can be attended to by one girl, will knit 40,500 stitches in a minute. After this, we need not wonder that Leicester can weave stockings enough to supply the world.

IMMENSE QUARTZ CRYSTALS.—A large number of immense crystals of quartz were found, in 1868, at Canton Uni, [Switz.?] the largest of which weighed 267 pounds; other specimens weighed as follows:—225, 210, 134, 130, 125, besides many smaller ones, but still of mammoth size. Most of these specimens were of what is known as smoky or topaz quartz.

A HEAVY TAX-PAYER.—A. T. Stewart, of New York, last year paid an income tax more than either one of twenty-seven States and Territories, and more than Arizona, Colorado, Dakota, Florida, Washington, New Mexico, Utah, Idaho, and Montana combined. Mr. W. B. Astor paid more than the whole State of Vermont.

TWENTY-FIVE miles an hour is shown, by signal service observations, to be the average velocity of a storm.

GOOD HEALTH.

A Remedy For Cold Feet.

It is always unfortunate for a person to suffer habitually with cold hands and feet. It indicates that the blood is indifferent in quantity or poor in quality, or that too little exercise is taken. There are many means of partially or wholly remedying the evil, which we will give:

1. Go barefoot in hot weather and expose the feet as much as possible to the direct rays of the sun when it is hot. This remedy may not always be agreeable or possible, but where it is, it surpasses most others. Most people have feet so deformed and miserably tender that the thought of touching the feet to the ground is almost terrible, but a little practice will make it pleasant. Children should go barefooted in summer. They will have more perfect and healthy feet if they do.

2. Lying with the face downward, with thin-soled shoes on, let some one pound the feet with a wooden mallet, not larger than an egg. Let the blows be of such force as are not unpleasant to bear.

3. Stamp with the feet on the hard floor when the shoes are on.

4. Dance an hour or more three evenings in each week. By this we do not mean attend fashionable parties, but the home dance, where dissipation and late hours are unknown.

5. Take a great deal of exercise of the lower extremities, such as walking, running, etc.

6. If you have not sufficient strength of your own, have some person, while you are lying on a couch, knead, percuss, stretch, flex, and extend the limbs in such a way as to draw the blood to them.

7. At night soak the feet in hot water for five or ten minutes, and then, after suddenly dipping them in cool water, have them carefully dried with soft towels and rubbed as hard with the bare hand as they will bear.

8. If you are dyspeptic, improve the digestion. A person with sound digestion is very rarely troubled with cold feet.

To the above add loose shoes, clean, dry stockings, and wholesome food.

COLOR BLINDNESS.—Mr. Monck, of Trinity College, Dublin, propounds a novel and interesting theory of color-blindness. The ordinary explanation is that the eye is not sensitive to certain colors; to which it is objected that a color-blind person sees the whole spectrum, and were the explanation true there should not be color-blindness to complementary colors—red and green for example. Monck bases his theory on the phenomena of accidental colors. Thus, if the eye be very sensitive to the excitation of the complementary tint, then this latter, appearing with vividness while the eye gazes upon the original color, is so combined with it as to give rise to the grayish tint with which color-blind persons so often confound colors. The brighter the light, the more quickly and vividly would the accidental color be produced. Another argument is, that color-blind persons rarely see accidental colors. According to this theory, then, the color-blind eye is one in which the complementary color is seen very vividly while looking at the primary color.

POSTURE OF THE HEAD IN SLEEPING.—It is a question among people who are unacquainted with anatomy and physiology whether lying with the head exalted, or on a level with the body is the more unwholesome. Many, consulting their own ease on this point, argue in favor of that which they prefer. Now although many delight in bolstering up their heads at night, and sleep soundly without injury, yet we declare it to be a dangerous habit. The vessels in which the blood passes from the heart to the head are always lessened in their cavities when the head is resting in bed, higher than the body; therefore, in all diseases attended with fever, the head ought to be pretty nearly on a level with the body; and people ought to accustom themselves to sleep thus and avoid danger.

FOR FEVER AND AGUE.—A friend assures us that the following receipt is a sure cure for fever and ague: Half a nutmeg, grated; a piece of alum size of nutmeg, and half a pint of vinegar. Simmer until the alum is dissolved and drink when the chill comes on. This seems like a disagreeable dose, but our friend assures us that it is not nearly so unpleasant as the chills with which he was afflicted for several months, and of which he was cured by this prescription.—*Calistoga Tribune*.

Suffocation by Gas.

It is curious that in spite of the general dissemination of information among the masses at the present day, there should be so many people entirely ignorant of the properties of illuminating gas. Every now and then some country girl goes to town for a holiday, puts up at a hotel, blows out the gas on going to bed, and is suffocated. These accidents have happened in every city of any consequence in the States, and several instances have been recorded by the press of San Francisco. Considering the danger of these mistakes, and the frequency of their occurrence, we think it would be as well for hotel proprietors to establish a rule that the clerk, or whoever showed visitors their rooms, should explain to them the proper method of extinguishing the gas light. The same end might be effected by putting notices on the doors of the bedrooms, inside, but for the probability that those most likely to blunder might not know how to read. So many lives have been lost in this way, however, that something ought to be done to protect bucolic visitors from asphyxiation. We commend the suggestion to the hotel keepers of our cities generally.

A MEDICAL PRESCRIPTION FOR THE BREATH.—"From six to ten drops of the concentrated solution of the chloride of soda in a wine glass of pure spring water, taken immediately after the ablutions of the morning are completed, will sweeten the breath by disinfecting the stomach, which, far from being injured, will be benefited by the medicine. If necessary, this may be repeated in the middle of the day. In some instances the odor arising from carious teeth is combined with that of the stomach. If the mouth is well rinsed with a teaspoonful of the solution of the chloride in a tumbler of water, the bad odor of the teeth will be removed."

SLEEP—THE AMOUNT WE NEED.—What is the quantity of sleep which a reasonable man should be contented with? This is a somewhat difficult question. Tall and bulky people require more sleep than short and thin people, men than women; and all animals sleep longer in winter than in summer. Age, constitution, climate, occupation, and a variety of incidental causes, must be taken into consideration. In extreme old age, much sleep is required. Youth and young adults sleep, habitually, very soundly. The faculty of remaining asleep longer than is necessary, cannot be indulged in without impairing the strength both of the body and mind. In a state of health, the amount of sleep required to restore the nervous energy, averages, we conceive, from six to eight hours.

FOR THE WHOOPING COUGH.—At a late meeting of the Academy of Science, Professor Coleman narrated the effect that cresylic acid had in arresting and breaking up the whooping cough in his family. He placed the acid in saucers in the rooms. The change for the better was very decided. The cresylic was merely the anodyne form of the carbolic acid, and would have a similar effect.

The fact explains the beneficial effect of inhaling the air of gas factories for this complaint, as the air of such places is always largely charged with this acid in the form of a gas.

TO PREVENT PITTING FROM SMALL-POX. An ointment made of charcoal and lard, applied freely over the face, neck and hands, is said to prevent pitting in small-pox; it should be used immediately upon the commencement of the disease, and continued until the fever has entirely ceased. This application not only allays the itching, but it appears to shorten the duration of the disease, while it leaves the patient entirely free from all blemishes; the charcoal prevents the action of light, and the lard that of air.

SOMETHING ABOUT HYDROPHOBIA.—Mr. Youatt, a famous veterinary surgeon, who has been bitten eight or ten times by rabid animals, relates that the crystal of nitrate of silver rubbed into the wound would positively prevent hydrophobia in the bitten. True or not, it is easily tried, and is not dangerous.

EVIL EFFECT FROM HEAVY EAR-RINGS.—Many ladies have ruined the shape of their ears by wearing heavy, massive ear-rings which not only spoil the shape of the ear by elongating it, but also produce headache and pain the face.

QUICK EMETIC.—A teaspoonful of mustard in a tumblerful of warm water.



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SAN FRANCISCO:

Saturday, Nov. 4, 1871.

Our Weekly Crop.

Taking a hint from the drouth of the two past seasons, we have determined to set the example of more diversity in our farm products, and have accordingly introduced the cultivation of The Ramie Plant, which it is believed will soon occupy a conspicuous position among the Products of California. By way of variety we have also introduced to our readers some Pomological Curiosities, the results of summer, in Our Inland Valleys, after examining which we will pass on through the Library, to an adjoining room where we find some interesting Notes of Travel in Monterey and Santa Cruz Counties, a few hints about the Effects of Climate on Fruit and some other matters.

We next visit the Poultry Yard, where we find among other things, some important hints in regard to California Experience in Chicken Raising. From thence we pass on to the Apiary which stands near the Sheep Fold. After looking over our Agricultural Notes and Some Recent California Patents, we pass to the examination of a curious specimen of Novel Architecture—Wingard's Improved Construction of Vessels, which has been turned "keel up" for our more convenient inspection. These matters naturally lead us into some curious speculations with regard to Mechanical Progress generally, from which we derive much Useful Information.

After brief consideration of The Season—Its Lessons, Etc., we resume the Inspection of the Tide Lands, to facilitate which we have prepared a Map and hung it up in a conspicuous place.

The Home Circle loses nothing of its interest in the midst of these weighty outside matters; while Domestic Economy and other relative subjects follow in course.

Before closing for the week, we leave the valleys for a moment to consider some plans in progress of Utilizing the Mountains, all of which is respectfully submitted.

Our Map.

We give herewith for the benefit of our readers generally, and more especially for those interested in the account we are now publishing of the "Inspection of the Tule Lands," a map of so much of said lands as lie contiguous to the Sacramento and San Joaquin rivers, this side of Sacramento and Stockton. The lines of segregation, showing the boundaries of these lands, or the lines which divide the uplands from the tule lands are distinctly shown, and need not be confounded with township lines. The shaded spaces indicate the lands belonging to the several reclamation companies.

The different direction of the lines of shading on a portion of the map denote the ownership, as follows:

The lines inclining from left to right denote lands belonging to the Tide Land Reclamation Co.—Geo. D. Roberts and others.

The lines inclining from right to left denote lands belonging to Judge Hastings & Co.

The perpendicular lines show lands

belonging to G. D. Roberts, A. G. Kimball and Dr. Wm. McMurtrie.

The parallel lines represent lands belonging to Geo. D. Roberts personally.

Bouldin Island belongs to Cassel, Stewart, and others.

Venice and the island on which it is located belongs to Bigelow, of Oakland, and others.

The island not named, but opposite Venice, belongs to Col. Jack Hays and others.

All the islands mentioned in our report of the late Tide Land Excursion, are distinctly shown and named, with the principal rivers, branches and sloughs. The extent of the grounds held by the various companies can be easily calculated by counting up the mile sections covered by the shaded spaces. All of this land will be reclaimed as fast as the work can be conveniently set on foot and carried out. Sherman, Twitchell and Owens' islands have already been reclaimed, and are now mostly under cultivation, with results which are fully set forth in the articles already published on this subject, and to which future reference will be made from time to time as occasion presents. This map will prove very useful for future reference, and should be preserved by every reader of the Press.

THE SEASON—ITS LESSONS, ETC.

All are now anxiously watching for signs of coming rain. Last Friday, after we had gone to press, we were cheered with the first shower of the season. Its mode of coming and early promise were indicative of a copious fall; but the result was discouraging—the surface of the ground only was moistened. There was neither rain enough to start the grain that had already been sown, nor to facilitate plowing where moisture was needed for that purpose. Nearly a week has now passed, and we are still without further tangible signs of additional rain; yet nearly all seem to be fully persuaded that we are to have a favorable season.

It is always better to hope than to doubt, but so long as there is uncertainty, it is well to be prepared so far as can be, for the worst. For two successive years the drouth has destroyed the hopes of the farmers in a large portion of the State, and all agree that a third season without a crop will bring dire calamity to our doors; while, with a sufficiency of rain, our valleys will team with the golden grain which will bring good times and prosperity to all.

In the present uncertainty, if our farmers are provident and wise, they will strive to profit to the utmost from the lessons of the past, and introduce those improved systems of culture, which experience has shown yield the largest returns, in seasons of diminished rain. Deep culture may possibly not be desirable in every locality; but thorough culture can never be amiss. Early planting seldom fails to prove beneficial—it is the safe plan to adopt as a general rule. Care should also be observed to secure the best and cleanest of seed. Diversified crops will also be found a great safe-guard against drouth, insects, disease and accidents of all kinds that are liable to interfere with the prosperity of the farmer. We have heretofore relied quite too much on the grain crop. Rotation of crops is also a matter to which California farmers must begin to give more thought. Let careful examination be made of lands with regard to their diversified capacity, and let experiments be made, both in that direction and in the mode of culture. Let the plow run deep and shallow on similar ground, and compare the results. Watch also for the comparative results of thorough and imperfect pulverization, the effects of dressing, etc. Such experiments can be made on a very small scale, with but little labor and expense, while highly important results may be obtained.

If we rightly profit by the reverses of the past, our temporary and partial losses may be the means of so greatly increasing our aggregate gains in the future, that our losses will really prove benefits.

With a good season, a much greater area of land will be cultivated the coming season than ever before. The harvest just gathered, in spite of the "croakers," has been a fair general crop, and one that will make a very satisfactory showing in dollars, if not in bushels, when we come to figure up the season's exports. Let us take heart for the future and hope for the best.

The drouth of the two past seasons is attracting much attention to the value of our tide and overflowed lands, and bids fair to be the means of developing one of the most important sources of wealth in the State, which but for the drouth, might have remained waste for an indefinite number of years to come.

INSPECTION OF THE TULE LANDS.

[Continued.]

Schoolcraft Island,

containing 12,000 acres of land, lies directly west of Grand Island, being bounded on the north and west by Miner's Slough, and on the west by the west branch of the Sacramento River. The land of this island, viewed from the boat seems lower than that of Grand Island, and has not been covered with so heavy a bed of sediment. It looks as though it might be more difficult of reclamation. The next island visited by the Excursion party was

Brannan Island,

which lies directly south of Grand island, and east of the town of Rio Vista. The reclamation company own most of this island, and are now engaged in damming the sloughs that put out into it, and putting in flood-gates preparatory to a thorough reclamation by levees. Upon this island at Smith's ranch we found a fine vineyard of Mission grapes. The bunches were the largest and most compact we have ever seen of this variety, and the grapes were very large and fine flavored. In this vineyard we noticed the salt grass, growing most luxuriantly, indicating the presence of alkali, which, however seemed to produce no visible effect on the vines or fruit.

We also noticed here fig trees of the large purple variety, full of fruit, in all stages of growth from the size of a kernel of corn, to the full sized, ripe and luscious fig. At Sacramento, the second crop of fruit all ripened on this variety of trees, some three weeks since, and no more is starting. This difference in bearing must be attributable to the difference of climate and supply of moisture to the roots.

It being now near night and Mr. Roberts wishing to save all the time he could, and enable his guests to see as much as possible of interest by daylight, headed the Victor for

The Web Tract,

a large piece of swamp land in Contra Costa county, fronting on the south bank of the west channel of the San Joaquin River for some twenty-five miles and running back to the high lands. It contains about 15,000 acres and is owned by Roberts, Kimball, and McMurtry, who are driving forward the work of reclamation as fast as possible.

One advantage this tract has over those on islands, is that it runs back to high lands and in times of very high water, stock can be very easily driven to these lands for safety. Another is that the expense of reclamation will be less, requiring a levee only on one side. We notice the owners fully appreciate these advantages as they hold the land at \$100 per acre, for the entire tract. The levee is being constructed here by machinery. There are two steam machines at work by the job or contract at ten cents per cubic yard.

The Robertson Machine

works very similarly to the ordinary dredging machines. It is transported on a scow which floats in the canal made by the excavation. It cuts the canal or ditch 12 feet wide and four feet deep at one swath, and deposits the earth on one side in the shape of a rough levee, which is afterward faced up with the shovel by Chinamen. It does its work well and makes on an average about 320 running feet of levee in a day. Considering that this machine is the first and only one built under the patent, it is a good success and promises to become valuable to its owner, and very useful in the reclamation of the tule land.

The Robert's Machine

is moved on wheels laying and taking up its track as it goes. It cuts four feet wide and four feet deep at a swath, elevating the earth by an endless chain elevator, and depositing it on the opposite side of the ditch from that occupied by the machine. To widen the ditch and increase the levee it

repeats the swaths, lengthening the elevator and depositing the earth each time on the top of the first deposit. We did not see this machine work, but were assured by Mr. Kimball that it was generally considered as a more promising one than the other.

Sheep and Cattle.

On one portion of this tract, the proprietors have 25,000 head of sheep, which have been grazing there all summer, and look in a very good condition. Another portion of 10,000 acres is leased to Lux & Miller, of this city, who have on it 11,000 head of cattle—less than an acre to an animal. These cattle have occupied this pasture since spring and they are now in such a condition that their owners are making weekly shipments to supply the San Francisco market with beef. We noticed, growing on this tract, a number of varieties of clover, and a great profusion of native grasses. When fully reclaimed and burned, we have no hesitation in believing each acre of the entire tract sown in Chili clover, would produce annually from six to nine tons of good hay, and in addition keep an ox or horse in good condition from September each year until the first of December.

Burning the Tule Lands.

On the lower end of the Webb tract the proprietors propose to plant this season 5,000 acres in wheat. This portion was ditched last year and has "dried out," as they term it, when they mean to say the land is ready to burn.

Here we saw the burning process in operation. The tule and grass is set on fire and is rapidly consumed. But the fire is not satisfied when it reaches the soil, but penetrates and consumes this also until checked by the dampness underneath. This reached, the burning ceases, leaving a few inches of light ashes and charred soil as the remains of the spongy vegetable composition. This process lowers the level of the land from four to six inches. In this condition the land is ready for the seed; but being too soft and miry to support the weight of horses, or cattle, it cannot be cultivated, with teams and harrows, in the ordinary way.

Hence the plan of treading in the grain with sheep has been resorted to, and found to work well. The large flock is divided up into smaller ones of two or three hundred each, and a boy and shepherd dog takes charge of each of these small flocks—driving them back and forth as you would drive a team with a harrow, until the whole ground has been tramped over. This is the way the first crop is put in.

The second year the land is generally volunteered. The sheep are brought into requisition in this process also. Too much grain generally falls to the ground, while harvesting, to seed it properly for a good crop; so immediately after harvest the sheep are turned in to pick up this surplus seed, and while picking up some they tramp in the rest, leaving the ground seeded about right, and well tramped in.

Twitchell Island

was the next point visited. This island lies directly south of Brannan Island, and north of the San Joaquin river. It contains 3,600 acres. It was leveled last year, but not in time to "dry out" the land, in the center, sufficiently to burn, so that only 1,000 acres, and that in a strip around the edges, was sown to wheat. The reclamation company last year sold this island to Minor, Prather & Co.—one of the firm purchasing being Geo. D. Roberts—for \$68,000, after the work of reclamation was completed.

The proceeds of the wheat crop raised on the 1,000 acres planted has been \$67,700—within \$300 of the entire purchase money. Besides this there are several thousand dollars worth of vegetables now on the land, not yet gathered.

The center of the island is now being

burned preparatory to seeding and tramping, while the sheep are fattening on the surplus grain left on the last year's stubble and tramping in or volunteering what they cannot eat.

The levee around Twitchell island is twelve feet base, and three and a half feet high. The wagons used on this island have wheels with fellos and tire six inches wide. The steam threshing machine and boiler were provided with like wide-wheeled wagons. This precaution is necessary to make them float, and yet, as they roll along over the surface, they stir up clouds of dust.

Sherman Island

lies between the two largest rivers in California—the Sacramento washing the northwestern bank, and the San Joaquin the southeastern. The head of the island is within three miles of Rio Vista, and the foot directly opposite Collinsville. We judge it contains about 12,000 acres; it was the first of this great group of islands leveed, and is in a more forward state of reclamation and cultivation than any other.

We visited but one farm on this island—that of A. J. Bigelow on the Sacramento river. Mr. Bigelow owns 430 acres lying in a body—about half under cultivation. If we had seen nothing before, we saw enough here to convince us that the resources of our State are but just beginning to be known and developed, and that the garden spot of California will yet be found in the tule lands forming the deltas of her two great rivers. Here were grapes, strawberries, watermelons, muskmelons, sugar-beets, mangel-wurtzels, carrots, parsnips, turnips, squashes, corn, tomatoes, wheat, barley, Chili clover, red clover, timothy, and we cannot say how many other horticultural and agricultural products growing, and all in the greatest perfection, on a soil, the cost of which is not much over half the cost of cultivating the soil of the ordinary upland, while the chances of a failure of any crop, when the seed is once in the ground, are scarcely to be taken into consideration. We were so pleased with the general exhibition of farm products, that in the short time which we had to remain, we could gather but few specific facts. One field, however, we learned was sowed in February last to barley and Chili clover, at the same time. There had been gathered from this field a crop of barley of over 60 bushels to the acre, and since that time the clover had been mown twice, yielding each time a ton and a half per acre, and the third crop was nearly in bloom again. Another field was sown to wheat and Chili clover in February. From this field had been gathered 45 bushels of wheat to the acre, and one crop of 1½ tons of clover per acre had since been cut, and for three weeks two or three head of stock had been feeding on each acre, and the feed was still knee high and growing luxuriantly.

The people of Sherman island have laid it off into school districts and have already at least one good public school in operation. They have also laid out public roads and have a post-office, and a good wharf at the town of Emmaton, on the west side of the island, at which the Sacramento boats stop every day on their up and down trips. Indeed they present every indication of a wide-awake and prosperous community. Lands there, brought under cultivation, are worth and being sold, when sold at all, for from \$50 to \$75 per acre.

Other Islands,

in addition to those above named, we may mention Bouldin, Venice, and Mandeville

islands as in progress of reclamation, each containing from five to eight thousand acres of land, the soil of which is very similar to that of Twitchell and Sherman. Roberts and Union Islands.

At a point some 12 miles nearly south of the city of Stockton, where the San Joaquin river divides, one branch, called the San Joaquin proper, runs nearly north to within a few miles from Stockton, then bears westerly in a very crooked line to a

their swamp land possessions.

Different Characteristics.

There is a striking difference between the topography of the Sacramento islands, or those washed by the waters of the Sacramento and the sloughs making out of it, and those washed by the San Joaquin and its branches or sloughs. The banks or edges of the former are considerably higher above low-water mark than those of the latter, and are all studded with bushes—

other hand the surface soil of the San Joaquin islands has scarcely any other material in its composition than this decomposed vegetable matter.

Overflows.

The Sacramento river, it is well known, is subject to more frequent overflows than the San Joaquin. The cause of these more frequent overflows is attributable to the fact that the Sacramento has a number of large branches leading direct from the Sierras, and bring to it large accessions of water, while it has but one channel through which to convey these waters until they reach the head of Gravel island, where they meet a heavy ebbing and flowing of the tide. The San Joaquin, on the contrary, as we have seen, is divided into three about equal channels, some 12 miles above Stockton, which do not again unite until within a few miles of the Sacramento, when another system or net work of sloughs come immediately to its relief, and assists in conveying its waters to the broad and deep channel opposite Sherman Island. Again there is more mining on the Sacramento and its tributaries than on the San Joaquin, and this fact, coupled with the more frequent overflows, accounts for the higher banks and heavier soil of its islands. The difference in timber and vegetation, follows the difference in soil—the heavier the soil, dampness being equal—the heavier the growth of trees and vegetation.

Tule Islands as Homes.

There is but little doubt, that most, if not all the islands that we have named, can be reclaimed so as to render these lands very valuable—more reliable in fact for producing annual crops, or in other words, less liable to failures on account of overflows than the uplands are on account of drouth. Indeed, with the facilities they possess for irrigation, they may be kept up to a good degree of fertility under a system of constant cropping for a long series of years or an indefinite time without any other fertilizing applications except what will be supplied from the water. But the important question in reference to their settlement is, can they be made so secure against overflows in such times as '52 and '62 as to render property of all descriptions and the lives of the inhabitants safe upon them? For all ordinary seasons we are of the opinion that the present plan of reclamation,—ditches and levees, provided always that the levees are made sufficiently high and strong, and watched with care, and kept in good repair, will render them safe, not only for the accumulation of property, but as homes for the families of their occupants. But how will it be in case of such a flood as that of 1862, when all the lower country becomes so filled up with the accumulated

waters, as to check the current in the Sacramento river as high up as the city of Sacramento and in the San Joaquin at Stockton? These islands were then all under water to a depth of equal to, if not greater, than any of the levees being constructed upon them. When these islands are all leveed, as is now the intention to do, and an attempt is thus made to confine such a bulk of water in the narrow sloughs, will it not necessarily be forced up to a greater height than when allowed to spread out over hundreds of thousands of acres in extent?

This question addresses itself, not only to the individual who owns land here, and who proposes to make a home for himself and family, or to have others do so,

[Continued on page 284.]



MAP OF THE TULE LANDS.

point at which the town of Venice was founded, and built on paper. The other branch, called West channel drops off to the southwest, and finally sweeps back and rejoins the main river about three miles below Venice. The greatest distance between the two rivers is about 18 miles. The oval-shaped piece of land thus surrounded by these two channels is traversed, a little south of the center, by another river called the Middle channel, thus forming the two large islands known as Roberts and Union Islands—the former contains 60,000 acres and the latter from 45,000 to 50,000, nearly all of which belongs to the Reclamation Company, and is claimed by them to be susceptible of easy and perfect reclamation, and when so reclaimed to be among the most valuable of

mostly willow; and with sycamore trees, from 20 to 50 feet high, while the centers, of the islands are entirely desolate of shrubs and trees, being covered by a very tall and heavy growth of tule. The banks of the San Joaquin islands, on the contrary, appear to be no higher than the centers and are almost uniformly destitute of bushes and have no trees of any size, while the centers of the islands are dotted with bunches of willow, and the tules are thinner and shorter—being mixed with a much greater quantity of coarse grass of different kinds, including now and then patches of California clover. Again the soil of the Sacramento islands is to a great extent clay and a late deposit of fine yellow sediment, underlying which is a strata of almost pure decomposed vegetable matter. On the



(Original.)

A Song for the Corn Harvest.

BY ROBERT E. C. STEARNS.

Some fill the goblet to the brim
And drain its sweetness dry,
In praise of beauty's glowing cheek
And woman's beaming eye.

As pure a song, we sing to-day—
'Tis not the generous vine,
Whose ruby clusters, kindling blood,
Lends flushes to the wine.

We sing the stately ranks, which lift
Their tasselled crowns on high—
Whose feast, the fatness of the earth
And sunshine of the sky;

Who stand, in leafy glory decked
On hillside or in glade,
And greet each breeze that passes by
With many a waving blade.

Whose generous bonny leaves its boon
At every farmer's door,
Whose teeming wealth fills labors lap
High-heaped and running o'er.

We hail the gems the harvest pours
From out her lavish horn,
More precious far than diamonds are—
The golden grains of corn.

LOVE AND FEAR.

"Did you hear me, sir?"

"I'm not deaf," muttered the boy in undertone, not meant for the ear of his father, but reaching it nevertheless.

Red anger burned instantly in the face of Mr. Somers; his eyes flashed with cruel purpose. "Off with you, this instant!" he said, "and don't let the grass grow under your feet. If you are not back in thirty minutes by the watch, I'll flog you within an inch of your life."

Richard manifested neither fear nor alacrity; but, instead, a kind of dogged impassiveness. Rising from the ground, where he had been sitting, he moved away with a loitering step.

"Thirty minutes!" muttered Richard, as he walked along, leisurely. "He knows I can't go in thirty minutes without running every step of the way there and back; and I'm not going to do that. Let him flog me. I won't stand it long."

Quick footsteps would have taken Richard to the end of his short journey and back, in less than twenty-five minutes; but anger had awakened his anger, and harshly applied force a feeling of resistance.

"I'm not a dog to be kicked," he said to himself, "or a mule to be driven. That's not the way to treat a boy."

There was no feeling of mind in the boy. Propulsion, not attraction, moved him onward, and his was a nature prone to resist. On his way many attractive things presented themselves, and he stopped, here and there—sometimes in forgetfulness of his errand; sometimes in wilful disregard of his father's command—rendering punishment a thing next to certain.

Full thirty minutes had expired when the boy reached his destination.

After communicating his message he sauntered away in a listless, indeterminate manner. Going home was not in his mind. There was an angry father there; and punishment awaited his return. He did not feel in the least inclined to meet the flogging within an inch of his life at an earlier moment than was absolutely necessary.

"You don't expect to see him in half an hour of course," said a gentleman, who had been witness to the contest between the boy and his father, and who had not failed to notice the excited and baffled state of Mr. Somers' mind.

"He knows the penalty."

"Which you mean to inflict?"

"As surely as there is strength in this right arm!"

"Even to within an inch of the boy's life?"

"I will bend or break him, sir. That is my duty. What hope is there for a wilfully disobedient child?"

"Small hope, I fear," said the other.

"Then is not my duty plain?"

"There is no question as to your duty,—the duty of securing submission from your child—but it is barely possible that

you are not using the right means. Mrs. Howett has expressed beautifully, a better way to reach the case.

"We need not be unkind, austere,
For love hath readier will than fear."

The neighbor repeated the couplet in a low, emphatic voice, his tones lingering on the words that needed expression, so as to bring on the full meaning they had power to convey. The eyes of Mr. Somers fell away from his face. He showed a slight uneasiness of manner. His stern countenance relaxed something of its sternness.

Now, friend Somers, let me suggest that you change your mode of discipline. Speak kindly, and in a low, firm voice to Richard, instead of in the bluff, imperative, angry manner in which you almost always address him. Let him feel that you really love him, and, my word for it, he will move to do your bidding with winged feet. I have studied the boy, and see in him good and noble qualities. You may lead him, by love, anywhere; but, under the rule of fear, you will drive him beyond your influence. Forgive my plain speech. I have wished to say this before, but, until now, saw no good opportunity.

The whole aspect of Mr. Somers underwent a change. Conviction struck to his heart. He saw that he had been unjust to the boy, unloving, unkind.

"If I could think so," he said. "But the obstinate self-will of the boy is firmly rooted. Shall a boy defy me?"

"Gently, patiently, forgivingly deal with the offender," replied the neighbor, as he laid his hand on the arm of Mr. Somers. "Let love rule, not anger. Is he all to blame? Does not the origin of the wrong lie most with yourself? Has it not grown out of your unwise discipline? Begin correction at the source. First get in a right attitude yourself, and then bring him right."

The neighbor, after saying this, retired, leaving Mr. Somers to the companionship of his own thoughts. There was now a weight of concern on the father's heart. Anger had given place to a troubled feeling. He drew out his watch as the half hour period advanced to a close, looked at the time, and then from the window, anxiously. If Richard had appeared in the distance, what a sense of relief it would have produced. But there was no sign of the returning boy.

"Willfully disobedient! Defiant. Perverse, unhappy, wrongly governed boy!" This was the father speaking in reply, and struggling to hold anger in check.

The half hour expired. Richard was still away. Another half hour elapsed and yet he was absent.

A whole hour beyond the limit of time had passed. Mr. Somers was growing uneasy. It flashed across his mind that Richard, in a fit of anger, rebellion, and discouragement, might have been tempted to run off. He remembered very distinctly how, once, in his boyish troubles at home, he had meditated the same thing, and actually commenced preparations to abandon father and mother, and try his fortunes in the world.

At the end of the second hour, Mr. Somers was in a very anxious state; and he was about making preparation to go out in search of Richard, when, on glancing from the window, he saw him pass in a hurried, stealthy way. He stood listening to hear him enter. The door opened, silently. Tip-toe steps sounded faintly along the passage. Mr. Somers followed them with his ears, but lost them on the stairs.

"What shall I do?" That was the difficult question with Mr. Somers. He stood for several minutes trying to get his thoughts clear, and his feelings calm.

"Poor boy!" he said, with a sigh; and this very utterance of a sentiment of pity helped him to a more pitying state of mind.

"Now is the time to reach him with gentleness and love." As Mr. Somers thus spoke with himself, he opened the door, went to the foot of the stairway and called "Richard?" Not harshly, but kindly, but no answer came.

"Richard?" His voice went up louder through the stairways and passages. But no sound, save echo, was returned.

Mr. Somers went up stairs to the lad's room. The door was shut. He opened it and went in. Richard was lying on the bed. He did not stir, but lay crouching and motionless, like one exhausted by pain. His face was of ashen hue. Mr. Somers noticed an expression of fear sweep over it, as the boy's large, strangely bright eyes turned upon him. As he advanced across the room, the fear and shrinking changed to something like the anguish of terror.

"O father!" he said, imploringly, "don't

—don't do it now!" and he lifted one arm as if to protect himself.

Mr. Somers understood him. The appeal and movement touched his feelings deeply.

"What ails you, my son?" The father's voice was low, pitying, and full of tenderness.

Instantly the lines of fear died out of the boy's face. His lips quivered—tears came brimming to his eyes.

"My arm is broke!" he sobbed; and then the tears came raining over his cheeks.

"O Richard!" ejaculated Mr. Somers as he placed his hand softly on the boy's forehead. "How did this happen?"

"I couldn't get back in half an hour, father, without running all the way, and I felt ugly here"—laying his hand on his breast—"and didn't try to go quickly. I went over the river, because I was afraid to come home; and fell from a pile of boards."

"Have you seen a doctor?" Mr. Somers inquired anxiously.

"Yes, sir. They took me to the doctor's and he set my arm."

Mr. Somers bent over his child, with his hand tenderly pressed on his forehead for some moments, in silence; then, as his full heart overran in a current of emotion, he stooped and kissed him, murmuring: "My poor boy?"

Richard did not understand all his father meant by the exclamation; but he felt that pity, forgiveness, and love were in his heart; and these were more to him than his sufferings, for, in their warmth and consolation, he forgot his pain.

"O father!" he said, a light falling on his pale countenance—"LOVE ME AND I'LL BE GOOD!"

Oh, the power of love! Anger, rebuke, remonstrance, punishment—these are but elements of weakness in comparison.

"Richard." It was a month from the day on which the arm had been broken. Richard, "I want you to go down to Mr. Baird's for me right quickly."

The father spoke kindly, yet in a firm voice. Richard, who was reading, shut his book instantly, and coming to his father's side with a cheerful—"Yes sir!"—stood looking at him, awaiting his message.

"Take this note to Mr. Baird and bring me an answer."

"Yes sir." And Richard took the note, and turning from his father, left his office with light and willing footsteps.

"Love hath readier will than fear!"

"Ah, good morning!" said Mr. Somers turning at the sound of a well-known voice and smiling a pleasant welcome.

"I see you have found the better way," remarked the neighbor.

"Yes, thanks to your timely uttered admonition," was replied. "The better and easier way. A harsh word seems to make leaden that boy's feet; while a kind word gives them the wind's lightness."

THE WIFE.—No man ever prospered in the world without the co-operation of his wife. If she unites in mutual endeavors, or rewards his labors with an endearing smile, with what confidence will he resort to his merchandise or his farm, fly over the land, sail upon seas, meet difficulty and encounter danger, if he knows that he is not spending his strength in vain, but that his labors will be rewarded by the sweets of home! Solicitude and disappointment enter into the history of every man's life; and he is but half provided for his voyage who finds but an associate for happy hours, while for months of darkness and distress no sympathizing partner is prepared.

NEW STYLE OF HAIR DRESSING.—An entirely new style of arranging the hair is to be adopted soon. The old French twist in the back is to be revived but rendered more graceful by a plait or cable of hair surrounding it, dropping low on the nape of the neck. A coronet of hair is to take the place of the Pompadour roll, and from beneath the coronet light curls and frizzettes are to fall on the forehead. Four long curls, two on each side, are to fall on the neck and shoulders from beneath the braid or cable. The temple hair is to be brushed high and smooth.

A WORKING WOMAN.—Mrs. Barry, of the Boston Children's Mission is said, during a year's time, to have made 1,156 visits to the poor, to have lined and trimmed 100 hats and bonnets, to have cut out 551 garments, and to have made two visits to another State, where she found homes for nineteen destitute children.

A GOOD WORK.—The New England Woman's Club has raised sixty-five thousand dollars to build cheap homes for working girls.

Young Folks' Column.

A Jury of Boys.

When Dr. Nathaniel Prentice taught the public school in Roxbury, he was very much of a favorite, but his patience at times would get nearly exhausted by the infraction of school rules by the scholars. On one occasion, in a wrathful way, he threatened to punish with six blows of a heavy ferule, the first boy detected in whispering, and appointed some as detectors. Shortly after, one of these detectors shouted:

"Master John Zeigler is whispering."

John was called up and asked if it was a fact. (John, by the way, was a favorite, both of the teacher and his school-mates.)

"Yes," answered John, "I was not aware what I was about. I was intent in working on a sum, and requested the one who sat next to reach me the arithmetic that contained the rule which I wished to see."

The Doctor regretted his hasty threat, but told John he could not suffer him to whisper and escape the punishment, and continued:

"I wish I could avoid it, but I cannot without forfeiture of my word and a consequent loss of my authority. I will leave it," continued he, "to any three scholars you may choose, to say whether or not I shall remit the punishment."

John said he would agree to that, and immediately called out G. S., T. D., and D. P. D. The doctor told them to return a verdict; this they soon did, after a consultation, as follows:

"The master's word must be kept inviolate—John must receive the threatened punishment of six blows of the ferule, but it must be inflicted on volunteer proxies, and we, the arbitrators, will share the punishment by receiving, each of us, two blows."

John, who had listened to the verdict steps up the doctor, and, with outstretched hands, exclaims:

"Master, here is my hand; they shan't be struck a blow! I will receive the punishment."

The doctor under the pretext of wiping his face, shielded his eyes, and told the boys to go to their seats.

MISCHIEVOUS BOYS.—The Portland Oregon Herald, tells a story of a lady in that city who was lately airing her little six-year old baby in its carriage, and having occasion to stop for a moment at the house of a friend, left her babe in its carriage outside the door while she entered. As soon as she came out she saw several youngsters running away from the carriage, and on looking at her child she found its mouth so full of dirt that it could hardly breathe. The mother, after a good deal of exertion, extracted the mud, and by making the child discharge its stomach managed to cleanse it of its nearly fatal food. Had the mother not seen the child as promptly as she did, it would have died of suffocation. We can hardly imagine how a boy could be so unnaturally cruel to a helpless, innocent babe. We are quite sure that no little reader of the Young Folks Column in the Press would do such a thing.

SWEARING.—It is now as it was in Jeremiah's time, "because of swearing the land mourneth." The ear is shocked at every turn with the profanity which fills the air. Even children utter the most horrid oaths; and probably nine out of ten of the adults who take God's name in vain, learned to do it when they were young. A young man who lives to be twenty-one without uttering a profane word, is not likely to acquire the low and wicked habit afterwards; and there is no habitual swearer, who entertains any self respect, who does not regret that he has acquired the habit. Boys, if you would secure your own and the respect of others—even swearers themselves—guard well against the first inclination to fall into this wicked and ungentlemanly habit.

LOCUSTS IN SCHOOL.—A Wisconsin paper says that the schoolboys of that vicinity are wont to derive much happiness from filling their pockets with the tuneful locusts, and when school exercises are well under way, at a signal from the baton of their leader, tap their pockets simultaneously, causing the insects to join in a chorus which entirely drowns all other noises within a quarter of a mile, and precludes all other business while the concert is progressing.

DOMESTIC ECONOMY.

Usages at the Table.

A person who wished to observe "the proprieties," inquired whether it was according to good usage to gnaw the corn from the cob, or if it should be cut into the plate. Generally, though not always, matters of table etiquette are founded in common sense. A bird can only be properly enjoyed by picking it, hence good usage sanctions the use of the fingers in removing the flesh from the bones of a bird, while one who should take the bone of a beefsteak, or a mutton chop, in his fingers, would be looked upon as ill-bred. The only way to get the full satisfaction, out of green corn is to gnaw it from the cob, and though the operation, especially to a foreigner who knows it not, is not an elegant one to witness, as it is performed at the best-ordered tables. So generally is it conceded that corn should be eaten from the cob, that silversmiths now make silver green corn handles; these are thrust into the large end of the cob, and allow it to be held without soiling the fingers. It is rather an awkward matter to cut the corn from the ear at table, especially if the knives are not sharp. If it is to be eaten in this way, it should be prepared before it is sent to the table. The operation of eating from the cob is much facilitated by drawing a sharp knife lengthwise of each row, in such a manner that the hull of each kernel will be split. When this is done, the digestible, nutritious contents of the kernels will slip out, and the often tough hull be left upon the cob. Those whose teeth are sensitive or defective will find this a great help.—*Rural Home.*

The Laundry.

The sticking of starched clothes to the smoothing iron is one of the most vexatious things with which the laundress has to contend. This is partly owing to the adulterations in the starch, for which there is no remedy but to obtain a good article. Starch gloss is used more to prevent this sticking than for the glossy surface which it pretends to give. The latter is rarely, if ever, obtained in perfection without polishing iron and machinery. So, dear ladies, do not waste your time and strength in pursuit of it.

I learned this from a woman once employed in the laundry of a shirt and collar factory. She said also that the only gloss they used was hard soap. They shaved it off and boiled it up in the starch, and she used in her washing a piece as big as a nickel cent to a pint of starch. She starched her wet clothes in this, dried them, and then if wanted very stiff, dampened them by dipping them into cold starch in which a little soap had been dissolved, spread them between dry towels, rolled tight, for half an hour, and ironed smooth. I have long used this in various ways and find it always good. I prefer white soap.

If the clothes are already stiff I dampen by merely dipping them in soapy water. Care of the irons has much to do with success. They should not be permitted to stand on the stove to receive slops from the cooking. When not in use they should be kept in a dry place. If the face is once rust-eaten it is irretrievably injured. If rusted, however, rub them on emery or brown paper, but not on salt, as this tends to more rust. Beeswax may be used freely at any time, rubbing on the hot face of the iron, and then rubbing the iron thoroughly on cloth or brown paper. Some laundresses always do this before putting an iron to a starched surface.—*Home and Health.*

HARDENING FATS.—By melting soft fats in lime-water, and actively stirring the same for two or three hours over the fire, then allowing the fat to cool, it will, in a day or two, become so hard as to be suitable for making candles. When re-melted it should be done with acidulated water to remove the excess of lime.

A PRETTY ORNAMENT.—Take a turnip, of convenient size and scrape out the inside, leaving a thick wall all around. Fill the cavity with earth, and plant in it some clinging vine or morning glory. Suspend the turnip with cords, and in a little time the vines twine around the strings, and the turnip, sprouting from below, will put forth leaves and stems that will turn upward and gracefully curl around the base.

Why Boiling Milk Foams.

When milk is boiled its volume is very much enlarged, while water merely bubbles without any increase in bulk; why is it that the two liquids under the same circumstances behave so differently? When water is gradually heated to the boiling point the portion nearest the fire first reaches the temperature of 212 degrees, and the first particle that is heated to this degree is immediately converted into steam. As in its new form its volume is about 1,700 fold greater than in the liquid state, while its weight remains the same, it floats upward through the water, being held in a nearly spherical shape by the nearly equal pressure of water against it upon all sides. When it reaches the surface it is lighter than air, and consequently floats away in the atmosphere, and being invisible it is lost to our sight. The rapid formation of these little globules of steam, and their rise produces that peculiar disturbance of the liquid which we call ebullition or boiling. When milk is boiled, the same little globules of steam are formed but their surfaces are coated with an exceedingly thin film of the casein, which is one of the constituents of milk, and which has sufficient tenacity to prevent the bubbles from breaking when they reach the liquid. They consequently accumulate as they successively rise to the surface, forming the white foam which so frequently flows over the edge of the vessel into the fire.

COOKING TOMATOES.—The tomato is a vegetable that is hard to spoil, and it is generally acceptable even when rudely cooked. It is capable of so much change in the cooking as to afford a pleasing variety. One way of stewing tomatoes is to choose very ripe ones, skin, and slice, rejecting any hard parts. Put in a pan with salt, butter, and pepper, and cook very slightly, not more than ten minutes. Another way is to stew the tomatoes until thoroughly soft, rub them through a sieve, and then cook them down to the desired thickness. Butter, salt, and pepper, are the usual seasoning. Those fond of the flavor of onions will find that the addition of chopped onions while cooking, makes an excellent variety. Baked tomatoes are fine. Choose large fruit, and cut out a cavity at the stem end; fill this with a mixture of powdered cracker or bread crumbs, butter, salt, or other seasoning, set on a pan and bake until done. If managed carefully, the tomatoes retain their shape. Tomatoes may be boiled; cut them in halves crosswise and put them cut-side down, upon a gridiron over the fire. When the cut surface is seared, turn them and put salt, etc., on each, and cook with the skin side down until done.

GRAHAM MUSH.—Faith Rochester says: Does anybody want to know how to make Graham mush? There are people who raise the best of wheat, year after year, and live on fine flour always, and have no idea how sweet, as well as healthful, the unbolted, or Graham flour is. Make Graham mush as you do corn-meal hasty-pudding, sifting the meal with your hand slowly into boiling water, stirring briskly meanwhile. A few minutes' boiling seems to cook it sufficiently, though many cook it longer. Sweetened cream is an excellent dressing for it, and then if you add fresh berries!—well, just try it! Many persons like it with unsweetened cream or milk, as they eat hasty-pudding. Wheaten grits are usually bought in paper parcels with directions for cooking. They are the wheat kernels with the outer woody fibre stripped off; and are excellent, especially for persons with inflamed stomachs who cannot bear the bran of Graham.

The neck of veal is rather a lean joint for roasting, and requires to be larded with bacon, or well buttered, and frequently basted. The scrag end must, of course, be cut away, so that six or seven chops only remain. An ordinary sized neck will take two hours' roasting. The larding is done thus: Cut some fat bacon into pieces two inches long and a quarter of an inch square; put the larding needle through the flesh about an inch and a half, then put one-third of the length of the piece of bacon on it, draw the needle out, and it will leave the bacon in the meat, about a quarter of an inch sticking up outside.

FROZEN POTATOES, if not permitted to thaw before being cooked, can be baked so as to be as good as though never frozen. They can not be boiled, however, nor even baked if submitted to the usual cleansing process of washing.

Domestic Receipts.

RASPBERRY VINEGAR SYRUP.—One pint of juice, two pints of vinegar, four pounds and a half of sugar. Prepare the juice as usual, adding the vinegar with it. Strain the juice and boil to the pearl. A very superior raspberry vinegar is made by taking three pounds of raspberries, two pints of vinegar, and three pounds of sugar. Put the raspberries into the vinegar without mashing them, cover the pan close, and let it remain in a cellar for seven or eight days; then filter the infusion, add the sugar in powder, and finish in the water-bath. This is superior to the first, as the beautiful aroma of the fruit is not lost in the boiling.

TOMATO CATSUP.—This sauce being a universal favorite, the following recipe, for making it at home is worthy of notice. Several of our frugal house-wives have tried it, and it proved to be a success: Scald and peel 8 quarts of ripe tomatoes; add 1 quart of strong vinegar, 6 teaspoonfuls fine salt, 4 ditto sugar, 2 ditto black pepper, 3 ditto red pepper, 2 ditto ground cloves, 2 ditto allspice, 2 ditto cinnamon; let all boil together about two hours, stirring it often; strain through a sieve, and when cool bottle, and cork it tightly. Keep in a cool place and it will remain good for years. Any one who tries this experiment will be surprised at the large quantity of excellent catsup obtained for a small sum of money.

MAKE YOUR OWN INDELIBLE INK.—The cheapest material for marking linen is coal-tar diluted with benzine to the proper consistency. Another inexpensive prescription is to place iron filings or old nails in strong vinegar; let them stand many days, and filter the liquid. Another way is to take equal quantities of vermilion and copperas, and rub them up with some oil varnish. The first and last preparations have to be used with a fine brush; the second with a common pen.

TO PICKLE ONIONS.—Take some nice onions and throw them into a tea-kettle boiler half full of boiling water, and let them remain ten minutes. Then take them out quickly and lay them between two cloths to dry; boil some vinegar with the ginger and whole pepper, and when cold, pour it over the onions in glass jars and tie them close over.

Mechanical Hints.

TO PREVENT THE INCrustation OF GLUE-KETTLES.—An exchange in speaking of glue-kettles, tells us of a simple improvement which will be of use to joiners, pattern-makers, and others using glue: "Every workman who makes frequent use of glue has been annoyed by the tendency of the glue which runs down from the brush to dry and harden upon the inside of the kettle—the incrustation thus formed sometimes reaching half an inch in thickness, or even more. To overcome this difficulty, three or four small holes should be drilled in the side of the kettle, close to the top rim. The kettle being set into the boiler, the steam rising from the water surrounding the kettle passes through the holes and keeps the interior of the kettle above the surface of the glue constantly moist. The glue which drips from the brush will therefore run down and reunite with the mass, instead of hardening and adhering to the sides, and the kettle is thus kept clean, however much used. The holes should be confined to one-half or two-thirds of the circumference of the kettle, in order that a place may be left at which to pour out the glue when desired."

TO CLEAN OIL-PAINTED SURFACES.—Take a piece of soft flannel, put it in warm water, and squeeze it till it feels dry; next dip it gently on to some very fine pulverized French chalk, and rub the painted surface with the flannel; the effect will be the removal of all dust, greasy matter and dirt; the surface is next washed with a piece of wash-leather. This method does not injure the paint like soap, and produces a very good result.

TO WASH BRASS FIGURES OVER WITH SILVER.—Take one ounce of aqua-fortis, and dissolve in it over a moderate fire one drachm of good silver cut small, or granulated; this silver being wholly dissolved, take the vessel off the fire, and throw into it as much white tartar as is required to absorb all the liquor. The residue is a paste, with which you may rub over any work made of copper, and which will give it the color of silver.

A bit of soap rubbed on the hinges of doors will prevent their creaking.

LIFE THOUGHTS.

WHAT a man does is the real test of what a man is.

Be praised not for your ancestors, but for your virtues.

A HYPOCRITE is one that neither is what he seems, nor what he is.

Good qualities are incomprehensible to those who have them not.

MODESTY seldom resides in a breast that is not enriched by noble virtues.

How canst thou be a judge of another's heart that dost not know thine own.

PRICELESS as the gift of utterance may be the practice of silence in some respects far excels it.

IN striving for the attainment of any object, the heart must be in the work for such attainment, and not set on the object.

He is happy whose circumstances suit his temper; but he is still happier who can suit his temper to his circumstances.

SOME THINGS YOU WILL NOT BE SORRY FOR.—For hearing before judging.

For thinking before speaking.

For holding an angry tongue.

For stopping the ear to a tale bearer.

For refusing to kick a fallen man.

For being kind to the distressed.

For being patient to all.

For doing good to all men.

For walking uprightly before God.

For lending to the Lord.

For laying up treasure in heaven.

For asking pardon for all wrongs.

For speaking evil of no man.

For being courteous to all.

Evil Speaking.

Speaking evil of others is one of the most unamiable habits that can be acquired, and one that leads to infinite mischiefs. It is not always easy to avoid, for there are a great many persons in the world who are not what they ought to be, who do many things that they ought not to do. It is hard for a blunt, generous mind to refrain from expressing itself about mean people and mean acts; there is something in meanness and dishonesty that rouses the indignation of such a mind, and it likes the luxury of denouncing them in bold and unsparing terms. But the practice, as a practice, is a troublesome and dangerous one. There are occasions when it is our duty to speak out in exposure of wrong; but, in general, it is best to abstain from speaking evil, even of evil persons. We are not made judges of others' actions; no one has the right to assume the character of arbiter and censor. Even the best of us has his faults, and if every one should presume to denounce the vices and misconduct of others, the world would be given up to defamation. We may see and hear much that we do not admire and can not like; we may become cognizant of many evil deeds done by evil persons; but it is the part of wisdom and discretion to pass them by without notice, unless speaking of them cautiously may be necessary as a warning to a friend. We all have enough enemies in this world without provoking others by ill-tempered comments. The enmity of evil men is a thing to be avoided, for while it can do us no good, it may do us much harm. Besides, we may make mistakes in the haste of honest indignation, and speak evil of good men for acts we do not understand. Such a mistake is worse than the other; for while it is impudent to promiscuously denounce evil men, it is a cruel wrong to defame a good man.

CHOICE WORDS.—Cherish thy mother; brief perchance the time may be that she will claim the care she gave; past are her hopes of youth, her harvest prime of joy on earth; her friends are in the grave; but for her children she could lay her heart gladly to rest among the cherished dead. O mother mine, grant I ne'er forget, whatever may be my grief, or what my joy, the unmeasured, unextinguishable debt I owe thy love, but make my sweet employ ever, through my remaining days to be to thee as faithful as thou wert to me.—*Bethune.*

It is not work that kills men; it is worry. Work is wholesome; you can hardly put more work upon a man than he can bear. Worry is rust upon the blade. It is not revolution that destroys the machinery, but the friction.

A word of kindness is seldom spoken in vain. It is a seed which, even when dropped by chance, springs up a flower.

(Continued from page 281.)

but it addresses itself to the people of the entire State—to the State Government, whose duty it is not only to reclaim these islands but to protect the lives and property of its citizens who may live upon them.

Additional Outlet.

Those who have made the reclamation of the swamp lands of this State a study, and who understand the question, have long since come to the conclusion that some additional outlet, through which the waters that accumulate, on the occasions of great and long continued floods, at the confluence of the Sacramento and San Joaquin rivers above Rio Vista, may escape more rapidly into Suisun Bay, is a matter of very great if not absolute necessity.

A number of plans for the accomplishment of this object have been suggested by engineers and others, some of which are doubtless practical and feasible. One which seems to have the approval of many largely interested, and in which every owner of swamp land on the Sacramento and San Joaquin is interested, is to tad Linda Slough, which is a southern branch of Cache Slough, by a canal running back of the Montezuma hills directly into a tributary of Suisun Bay. The distance across is but about seven miles, and the fall from point to point is said to be fourteen feet or two feet to the mile. The highest point of elevation is some thirty feet, but the distance at this elevation is very narrow—most of the way being but little above the water level. This or some other outlet should be constructed without delay. The interests at stake are too great to be longer sacrificed.

Such an outlet would materially enhance the value of every acre of land lying within the swamp land districts of the Sacramento and San Joaquin valleys, and these lands should be assessed to construct it. This subject should be brought before the next Legislature early in the session so that provision for its accomplishment may be made before the close of the session.

The proposed line of this drain-way, is represented by the dotted lines on the left of the map.

BLOODED SHEEP FOR JAPAN.—A Japanese agent purchased of J. B. Hoyt, of Solano county, six thoroughbred Spanish Merino and two graded sheep for shipment to Japan. They went forward by the steamer of Wednesday. There are no sheep in Japan, and the government in introducing them is determined to have none but the best. Japan is making most wonderful strides of progress in both her material and social developments. The work so well begun seems to gather force with its onward progress—and America is her type.

OAKDALE is the name of a new town laid out on the south fork of the Stanislaus, near where the Stockton and Visalia Railroad will cross that river. The depot buildings are now being constructed and the cars will be running as far as that point in a few days. The town already contains a hotel, livery stable, a number of stores and of course the usual supply of "saloons." A large number of dwelling houses are in process of construction. It is expected the place will be a shipping port of considerable importance.

THE CARSON ESCAPES.—Of the 29 prisoners which recently escaped from the Nevada State Prison at Carson 17 have been re-captured, and of the 12 yet at large, one at least is thought to have perished, and the whereabouts of several others is so well known that they can scarcely escape detection. Roberts, one of the captured ones, says it is not much to get out of the prison, but the trouble comes after getting out.

CHERRY HILL NURSERIES.—We have received the Semi-Annual Trade List and illustrated catalogue of Messrs. Hoopes Bros. & Thomas, proprietors of the above named nurseries, located at West Chester, Pa. This firm have long enjoyed the confidence of the public, and are doing a thriving business. Their catalogues embrace many specialties.

The Southern District Agricultural Fair.

The first Annual Fair of the Southern District Agricultural Society opened at Los Angeles on Tuesday last. Telegraphic reports to the Associated Press inform us that upwards of 1,000 people were present at the opening. The stalls were all full, and the display of fine stock, cattle and sheep greatly exceeded the expectations of the managers. The races seem to have been the great feature of the first day. In the evening there was a good attendance at Stearn's Hall, where there was a fine display of fruits and native products. The mines of the Julian District were well represented and oil paintings and other works of art with objects of home industry were exhibited. The grand parade of stock took place at the Fair grounds on Wednesday. All the counties of the southern part of the State are represented, and good order has been thus far observed.

COMMUNICATIONS.—We have received a very interesting communication from Mr. J. W. A. Wright, presenting some interesting and most encouraging deductions, with regard to the character of the present season, drawn from the record of the rain fall for the past 22 years, which will appear next week.

We are pleased to welcome back to our columns our old correspondent, Dr. J. R. Thomas, who sends us good words of cheer and encouragement from his new place—Ukiah City. His favor will appear next week.

An old correspondent, Mr. A. B. Bowers, has favored us with an excellent paper entitled, "The Water Question—Irrigation, Reclamation, Etc." The subject of the reclamation and cultivation of our tule and tide lands is one of vast interest, and is treated by Mr. B. from an engineer's stand point. We know of no man in the State better calculated to consider it in this light, or whose ideas will be more generally read and received. A portion of the paper will appear next week.

We have also quite a number of other favors from correspondents, which we have not yet had time to read—a part or all of which will appear next week.

MONTANA VEGETABLES.—Our Montana correspondent has furnished us a photograph of a group of vegetables exhibited at the late Montana Fair, and grown in that territory. The photograph is now in the hands of our engraver, and will appear in the Press next week or the week after.

THE RAIN IN SAN JOAQUIN VALLEY.—Mr. J. W. A. Wright writes from Turlock, Stanislaus Co., Oct. 30th, that the first rain of the season fell Oct. 27th, amounting to 0.04 of an inch. The farmers are encouraged with so light a rain in October, under the impression that if the heavy rains do not fall until November, a wet winter will follow.

The day after the rain the valley was visited with one of the heaviest northwester which has been experienced for some years.

In the communication from Mr. W., which we published last week on the "Rains and Climate of San Joaquin Valley," in the 20th line from the beginning, the expression "treeless land-plains" should have read "treeless sand-plains."

PAPER CAR WHEELS are proving far more durable than those made of iron. A set on a Jersey road has run 160,000 miles, worn out one set of steel tires, and is still in good condition with a new set. The ordinary iron wheels only run about 75,000 miles.

PEANUTS.—Sutter County is doing a large business in the peanut line this season. Peanuts have proved a profitable crop in almost all instances in this State where they have been tried.

THE CAL. COTTON GROWER'S ASSOCIATION.

We understand that the above named association, in addition to their cotton land purchase, at Bakersfield, as already mentioned, have also purchased of Messrs Livermore & Chester their entire interest in the village of Bakersfield—their hotel, store, barns, teams, etc. The sum of \$200,000 is the amount for which the transfer was made. The Kern county Courier, of the 21st ult., in speaking of the locality says: Hardly a day passes that we do not see work commenced on some new building. Bakersfield is growing fast enough to satisfy the most impatient, and it is now evident that nothing can retard her onward progress but want of materials. Bricks are needed, and we see no demonstrations making to supply the want. There is an opportunity here for parties to enter into their manufacture on a considerable scale, with as fair prospects as could be asked. Good material can be found convenient, wood is abundant and costs nothing but to cut and haul; and water may be conducted from the irrigating canals wherever needed.

AN AGRICULTURAL INCIDENT.—While the Swamp Land Excursion party were at Dwight Hollister's place on the Sacramento river, an incident occurred which is quite too good to keep. Two San Francisco gentlemen who we presume had been invited to the excursion on account of their supposed knowledge of, and interest in, agricultural subjects, were passing through the orchard where there was a very rank growth of that troublesome weed, known among farmers as Wild Morning Glory. Observing it, one remarked to the other, "Those sweet potato tops look well." After a careful scrutiny the other answered, "Do you call those sweet potatoes, where I come from they were peanuts," and laying hold of the vines he pulled up a bunch, when much to the surprise and apparent chagrin of both, with them came neither sweet potatoes nor peanuts. With what kind of vegetables the Morning Glory was finally classed we did not learn, as the steamer's whistle began to screech just then, and all hands hurried on board.

INFORMATION WANTED.—"J. T. W." of San Jose, writes to know:—1st, how to sow alfalfa; 2d, the amount of seed necessary to an acre; 3d, will it do to sow it with barley, so as to economize the use of the land; 4th, what is the P. O. address of parties who will furnish ramie cuttings, and what is the price of the same?

AMENDED MAP.—The amended map of township 12 north, range 8 east of Mt. Diablo meridian, has been filed at the U. S. Land Office, Sacramento and any pre-emption claim not filed within three months from Oct. 8 ult., will be deemed forfeited. This township includes the town of Auburn Placer county.

WOOL EXPORT.—About 12,000,000 pounds of wool—6,000 tons—have been exported from this State during the past nine months.

GRAPES.—Thirty tons of grapes are now being crushed, daily, by the Silveyville Wine Co., of Solano county.

A MONSTER CUTTING.—The Gardeners' Magazine is responsible for the following: A large weeping-willow tree having been broken off several feet from the ground, where the circumference was two feet eight inches, the jagged end of the stem was cut off so as to form a smooth base, and most of the branches trimmed off from the top, leaving a nearly clear stem eight feet in length, by two feet eight inches in circumference at the butt. This stem was planted in a hole four feet six inches deep, near the margin of a pond, the bottom of the hole being some 18 inches below the level of the water, and the earth was removed in very close around the stem. The experiment proved a complete success—the "cutting" being planted in 1865, and having arrived to the condition of a fine, vigorous, branching tree during the summer of 1870.

Utilizing the Mountains.

During the past summer, says the Sacramento Union, hundreds of thousands of sheep were grazed upon the high Sierras, at altitudes ranging from 4,000 to 8,000 feet above sea level. At the heads of all our rivers there are broad meadow lands, covered with a rank growth of grass from the month of July until the coming of the first snows of autumn, and watered by innumerable lakes and ponds. It is this region which supplies our best sheep pastures. Its extent is hardly yet known, but we may safely say there are several million acres of such meadows open to pasturage for four and a half to five months in the year, and at altitudes no higher than 4,000 feet for eight months. There is room in that region for twenty million sheep, or five times as many as we now have in all the State. It costs nothing but the driving and herding to make these splendid pastures available.

In Spain the great flocks of sheep are driven slowly along the Pyrenees in one direction during the opening of the season, and back again over the same ground toward the close of it. Here our sheep farmers are gradually falling into a like system. During the months of early spring the southern slopes of the lower foothills afford good pasturage, and on these hundreds of thousands of sheep are grazing from February to the middle of April, without reaching an altitude of 2,000 feet. From the middle of April to June they are driven by slow stages up into the great and open timber regions, on a line parallel with the Calaveras big trees and the sources of such second-class streams as Weber Creek, the San Antonio, Mariposa creek, etc. About the close of June the snow has pretty well disappeared on the mountains not above 6,000 to 8,000 feet, and it is at such altitudes, upon the mountain meadows, where the great lateral branches of the Sacramento and San Joaquin—as the American, Cosumnes, Yuba, Feather, Kings and Kern—take their rise.

When the sheep reach these meadows they are stopped for several months, and it is found that they fatten very rapidly and improve in health as long as they remain. There are in fact, no better pastures in the world for sheep, and everywhere the best of water, clear as the Lethe of Dante and cold as ice, abounds. The timber of this region is chiefly hackmatack, dwarf cedar and spruce. The climate is always cold to a valley resident, and the nights always bring frost. Wild animals, enemies of the sheep, are not numerous. The grizzly bear is the most formidable, and next the puma and large gray wolf. Coyotes never go so high up. Between the two "summits," as we have named the two distinct ranges of the Sierra Nevada, and beyond these meadow lands, is a system of larger lakes, each having a valley of greater or less size, and beyond the eastern summit, is another system of still larger lakes and valleys, among which are Goose lake, Honey and Pyramid, in the north, and Owen's lake and valley, and Walker lake and valley in the south. These last are generally not above 4,000 to 5,000 feet above sea level, and constitute the best grass farming districts on the coast south of Oregon. The lakes and valleys between the two "summits," among which are lakes Tahoe and Silver, and Yosemite valley, are not so large as those east of the eastern summit, but the lakes are deeper. The climate in these is severe in the winter and cold in the summer; but the limited pastures are the best in the world for dairy farming. During the past summer, we learn, there has been a good deal done in this business, and very many of these small valleys have been occupied by herds of cows driven up from the Sacramento and San Joaquin valleys, where there has been no grass at all. Hermit valley, at the head of the Mokelumne, on the Big Tree and Silver Mountain road, containing about 200 acres of level land, has all summer, since the 1st of July, produced an average of 100 pounds of butter daily, besides cheese. Hope valley, and the valley of Silver Lake, have in like manner been utilized. It is probable that as new explorations develop new valleys in these Alpine districts, there will be a system of dairy farming organized on a grand scale; and so, what with sheep-ranching and the timber business, there is a good prospect that in a few years the high Sierras will be settled with a more thriving population than now inhabit the old belt of the placer mines.

THE ARCTIC EXPEDITION under Capt. Hall, in the "Polaris," arrived at Upernivik on the 30th of August and sailed from there, going north, on the 5th of September. All on board are reported well and confident of success.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, THURS., A. M., NOV. 2.

FLOUR—The local inquiry continue fair, with very little enquiry for export. Sales embrace 4,000 bbls. Cal. extra, 2,000 Oregon extra and 1,500 Cal. superfine, at current rates. We quote prices without change as follows:
Superfine, \$6.75@7.00 extra, in sacks, \$7.75@8.00. Standard Oregon brands, extra, may be quoted \$7.62@7.75.

WHEAT—The market still continues quiet, and at slightly reduced figures, but with no demand for export. Sales embrace some 7,000 sacks fair to choice at \$2.50@2.65, with the exception of one lot of 50 tons sold to a local miller on Tuesday at \$2.70. We quote at close for \$2.50@2.65.

The latest Liverpool market quotation comes through at 13s. 2d.—no change since last report.

BARLEY—Has been in only moderate demand during the past week. Sales embrace 7,000 sacks ordinary coast to choice bay, at \$1.90@2.05, which is the range at the close.

OATS—Receipts continue free and demand light. Sales aggregate 8,000 sacks ordinary coast to choice bay, at \$1.60@1.85, which is a fair quotation at close.

CORN—Small consignments of new are arriving. We quote between \$2.00@2.05.

CORNMEAL—Is quotable at \$2.15@2.25.

BUCKWEAT—Quotable at \$2.67½@3.25.

RYE—According to quality is quotable at \$2.30@2.37½.

STRAW—Quotable at \$6.50@8.00 by the cargo.

BRAN—Demand fair at \$30 per ton from the mill.

MIDDINGS—For feed are now selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Receipts have been light, during the past seven days, and prices are firm at \$17@21 for fair to choice 3 ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The market for several days has been glutted and inferior kinds unsaleable at anything above feed rates—40¢@50¢; Good to choice qualities of Red are quoted at 60¢@1.12½; 70¢@85¢ for Mission, and 87½¢@1.05 for Halfmoon Bay.

SWEET POTATOES—Are selling at \$1.00@1.25.

HOPS—We quote new at 45¢@55c.

HIDES—During past week 1,900 Cal. dry sold at 17@18 and 2,000 salted at 9@9½¢.

WOOL—The demand has been light during the last week, with sales of 200,000 lbs. including burry and dirty descriptions—Clean 23¢@26¢; 23¢@25¢ for slightly burry, and 17¢@20¢ for burry. The market is much depressed and arrivals still exceed the sales in amount.

TALLOW—Market steady at 9@10c 3 lb.

SEEDS—Flax 3c.; Canary, 7@7½c.; Alfalfa, 15@16c, new and clean, 19c. Mustard—California Brown, 3@6c; Cal. White 3¼@4½c. 3 lb.

PROVISIONS—California Bacon 14@15c; Oregon, 15½@16c; Eastern do. 14@14½c; Cal. Hams 14½@15½c; Or. 15½@16½c California Sugar-cured Hams, 17@18c; Oregon do. 15½@18c; Eastern do, 19@21c; California Smoked Beef, 14c.

BEANS—Market irregular. The following are jobbing rates: Pea \$2.75@3.00; small White \$2.37½; small Butter \$2.25@2.37½, large do, \$2.50@3.00; Pink \$2.12½; Bayo, \$3.75 3 lb 100 lbs.

ONIONS—Receipts heavy; choice have sold at 90c. other kinds 50@75c 3 lb 100 lbs.

NUTS—California Almonds, 10@12½c for hard and 15@18c for soft shell; Peanuts, 4@6c; Pecan, 25c 3 lb., walnuts, 10c; Hickory, 12c; Brazil, 16c.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 9@10c 3 lb. Do 2d quality 7@8c 3 lb. Do 3d do 4@6c 3 lb.

VEAL—Extremes, 6@10c.

MUTTON—5@6c 3 lb.

LAMB—Good demand at 7c 3 lb.

PORK—Undressed grain-fed is quotable at 6@6½c. dressed, grain-fed, 8½@8¾c.

POULTRY—Live Turkeys, 16@18c 3 lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$4.00@4.50. Ducks, tame, \$6.00@7.00 per doz., wild \$1.50@3.50; Geese, \$12@15 3 dozen.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 45¢@55c; California firkin butter, 27½@35c. Eastern firkin 20@30c.

CHEESE—California is scarce 13@16c., Eastern, 14@16c.

EGGS—California fresh, 62½@64c. 3 doz.

LARD—California Lard, 11-lb tins, 13@14c; Oregon in bbls. 14½c.; Eastern do. 13@13½c.

FRUIT.

| | | |
|-------------------------|---------|---------|
| Tahitian Oranges..... | \$30 00 | @ 35 00 |
| Limes, 1,000..... | 10 00 | @ 15 00 |
| Malaga Lemons, 100..... | 6 00 | @ |
| Bananas, 1 bunch..... | 1 50 | @ 3 00 |
| Cocoanuts, 100..... | 6 00 | @ 10 00 |
| Apples, 3 box..... | 75 | @ 1 75 |
| Pears, cooking..... | 50 | @ 1 00 |
| Winter Nellis..... | 1 50 | @ 2 25 |
| Seckel do, 3 box..... | | |

| | | |
|------------------------------------|------|--------|
| Peaches, 3 box..... | — | @ — |
| Choice Mountain do, 3 lb..... | 1 00 | @ 1 25 |
| Quinces, 3 box..... | — | @ 12 ½ |
| Strawberries, 3 lb..... | 1 00 | @ 1 50 |
| Plums, 3 box..... | — | @ — |
| Prunes, 3 lb..... | 6 | @ 8 |
| Figs, 3 lb..... | 2 | @ 3 |
| Grapes, Sweetwater, 3 lb..... | 1 | @ 1 ½ |
| Mission do, 3 lb..... | 2 | @ 3 |
| Rose of Peru do, 3 lb..... | 2 | @ 3 |
| Black Hamburg, do, 3 lb..... | 2 | @ 3 |
| Muscad of Alexandria do, 3 lb..... | 3 | @ 4 |
| Flame Tokay do, 3 lb..... | 4 | @ 6 |
| Isabella do, 3 lb..... | — | @ — |

DRIED FRUIT.

| | | |
|----------------------|----|-------|
| Apples, 3 lb..... | 6 | @ 8 |
| Pears 3 lb..... | 8 | @ 10 |
| Peschies, 3 lb..... | 9 | @ 9 ½ |
| Apricots, 3 lb..... | 8 | @ 8 ½ |
| Plums, 3 lb..... | 6 | @ 8 |
| Pitted do, 3 lb..... | 18 | @ 20 |
| Raisins 3 lb..... | 10 | @ 15 |

VEGETABLES.

| | | |
|-------------------------------|------|--------|
| Cabbage, 3 lb..... | 1 | @ 1 ½ |
| Garlic, 3 lb..... | 1 ½ | @ — |
| String Beans, 3 lb..... | — | @ — |
| Tomato Squash, 100..... | 50 | @ 1 00 |
| Tomatoes, 3 box..... | 75 | @ 1 25 |
| Bay do, 3 box..... | 1 25 | @ 1 50 |
| Cucumbers, 3 box..... | 12 | @ 20 |
| Green Corn, 3 doz..... | 10 | @ 15 |
| Watermelons, each..... | 8 | @ 12 |
| Cantaloupes, each..... | 2 ½ | @ 3 |
| Lima Beans, 3 lb..... | 5 | @ 8 00 |
| Marrowst Squash, per ton..... | 5 | @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—We note an inquiry for ploughs, otherwise the market remains unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—The advance in the wholesale rates of Redwood took effect on the 1st inst., and it is said will be strictly adhered to. The stock of Oregon pine is light, and cargo rates are firm at the recent advance. Exports during the week include 51,000 railroad ties and 2,000,000 feet of lumber to Peru, and 600,000 feet to Chili. Dealers pay for cargoes as follows:

| | | |
|---|---------|------------|
| Merchandise worked rustic, from | \$31 00 | to \$32 50 |
| Refuse do do from | 20 00 | to 21 50 |
| Merchandise surfaced and rough clear..... | 28 00 | to 30 00 |
| Refuse surfaced and rough..... | 18 00 | to 20 00 |
| Merchandise beaded flooring, from | 28 00 | to 30 00 |
| Refuse do do from | 18 00 | to 20 00 |
| Merchandise rough..... | 15 00 | to 16 00 |
| Refuse do do from | 11 00 | to 12 00 |
| Fancy Pickets..... | 22 50 | to 25 00 |
| Rough Pickets remain unchanged. | | |

San Francisco Retail Market Rates.

FRIDAY, November 3, 1871

| | | |
|--------------------------|-----|------|
| Butter, Cal fr. lb..... | 65 | @ 75 |
| Pickled, Cal fr. lb..... | 45 | @ 50 |
| do Oregon, lb..... | 25 | @ 30 |
| Honey, 3 lb..... | 20 | @ 25 |
| Cheese, 3 lb..... | 20 | @ 25 |
| Eggs, per doz..... | 60 | @ 70 |
| Lard, 3 box..... | 10 | @ 15 |
| Sugar, cr., 6½ lb..... | 10 | @ 13 |
| Brown, do, 3 lb..... | 10 | @ 13 |
| Beet, do..... | 100 | @ — |
| Sugar, Map. lb..... | 25 | @ 30 |
| Plums, dried, lb..... | 15 | @ 30 |
| Peaches, dried, 15..... | 30 | @ 40 |

PRODUCE, ETC.

| | | |
|------------------------|----|------|
| Codfish, dry, lb..... | 8 | @ 10 |
| Flour, ex. 3 lb..... | 65 | @ 70 |
| Superfine, do..... | 60 | @ 70 |
| Corn Meal, 100 lb..... | 30 | @ 35 |
| Wheat, 100 lbs..... | 25 | @ 30 |
| Oats, 100 lbs..... | 15 | @ 20 |

FRUITS, VEGETABLES, ETC.

| | | |
|----------------------------|------|--------|
| Pine Apples, 3 lb..... | 5 | @ 10 |
| Bananas, 3 lb..... | 3 | @ 5 |
| Cal. Walnuts, lb..... | 20 | @ 25 |
| Cranberries, 3 lb..... | 75 | @ 100 |
| Cranberries, 100..... | 15 | @ 20 |
| Apples, Early, 3 lb..... | 50 | @ 60 |
| Red Astran, 1 lb..... | 50 | @ 60 |
| Red June, 2 lb..... | 20 | @ 25 |
| Pears, table, 3 lb..... | 75 | @ 100 |
| Plums, Cherry, 3 lb..... | 15 | @ 20 |
| June, 3 lb..... | 10 | @ 12 ½ |
| Apricots, Royal, 3 lb..... | 3 | @ 4 |
| Moopark, 3 lb..... | 3 | @ 4 |
| White, 3 lb..... | 12 ½ | @ 15 |
| Raspberries, 3 lb..... | 15 | @ 20 |
| Strawberries, lb..... | 25 | @ 30 |
| Blackberries, lb..... | 8 | @ 10 |
| Oranges, 3 cwt..... | 30 | @ 40 |
| Lemons, 3 cwt..... | 30 | @ 40 |
| Figs, dried, 3 lb..... | 25 | @ 30 |
| Asparagus, wh., 3 lb..... | 37 ½ | @ 40 |
| Apricots, lb..... | 6 | @ 10 |
| Artichokes, doz..... | 50 | @ 75 |
| Brussels sprits, 3 lb..... | 20 | @ 25 |
| Beets, 3 lb..... | 2 | @ 3 |
| Potatoes, 3 lb..... | 2 | @ 3 |
| Potatoes, sweet, 4..... | 5 | @ 10 |
| Broccoli, 3 doz..... | 15 | @ 20 |
| Cauliflower, 1..... | 10 | @ 15 |
| Cabbage, 3 doz..... | 15 | @ 20 |
| Carrots, 3 doz..... | 10 | @ 15 |

POULTRY, GAME, MEATS, ETC.

| | | |
|--------------------------|------|-------|
| Chickens, apiece 50..... | 75 | @ 100 |
| Turkeys, 3 lb..... | 25 | @ 30 |
| Ducks, wild, 3 lb..... | 50 | @ 60 |
| Tame, do..... | 50 | @ 60 |
| Teal, 3 doz..... | 3 | @ 4 |
| Geese, wild, each..... | 2 | @ 3 |
| Tame, 3 pair..... | 25 | @ 30 |
| From Chicago..... | 15 | @ 20 |
| Hens, each..... | 75 | @ 100 |
| Snipe, 3 doz..... | 2 | @ 3 |
| English, do..... | 12 ½ | @ 15 |
| Venison, 3 lb..... | 12 ½ | @ 15 |
| Quails, 3 lb..... | 15 | @ 20 |
| Pigeons, dom. doz..... | 50 | @ 60 |
| Wild, do..... | 50 | @ 60 |
| Hares, each..... | 40 | @ 50 |
| Rabbits, tame..... | 50 | @ 60 |
| Wild, do..... | 40 | @ 50 |
| Wild Geese..... | 12 ½ | @ 15 |
| Squirrel, 3 pair..... | 25 | @ 30 |
| Beef, tend, 3 lb..... | 20 | @ 25 |
| Sirloin and rib..... | 18 | @ 20 |
| Corned, 3 lb..... | 10 | @ 12 |
| Smoked, 3 lb..... | 12 ½ | @ 15 |
| Pork, rib, etc., lb..... | 12 ½ | @ 15 |
| Chops, do..... | 12 | @ 15 |
| Veal, 3 lb..... | 15 | @ 20 |
| Cutlet, do..... | 20 | @ 25 |
| Mutton chops..... | 12 ½ | @ 15 |
| Leg, 3 lb..... | 12 ½ | @ 15 |
| Lamb, 3 lb..... | 18 | @ 20 |
| Tongues, beef, ea..... | 75 | @ 100 |

* Per lb. + Per dozen. † Per gallon.

THE VISALIA DELTA has been recently enlarged, and is now one of the largest, best printed and most extensively circulated local weeklies in California. A new job press and material have lately been added to the office to meet the wants of a thrifty and growing community in one of the most promising agricultural districts of the State. E. M. Dewey, proprietor.

Thursday Noon our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|--|---------------|
| SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good. | |
| City Tanned Leather, 3 lb..... | 26 @ 29 |
| Santa Cruz Leather, 3 lb..... | 26 @ 29 |
| Country Leather, 3 lb..... | 25 @ 28 |
| French stock comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm. | |
| California kip and calf skins are still scarce and high. | |
| Jodot, 8 Kil., per doz..... | \$60 00 @ |
| Jodot, 11 to 19 Kil., per doz..... | 76 00 @ 95 00 |
| Jodot, second choice, 11 to 15 Kil., per doz..... | 60 00 @ 80 00 |
| Lemoine, 16 to 19 Kil., per doz..... | 35 00 @ |
| Levin, 12 and 13 Kil., per doz..... | 68 00 @ 70 00 |
| Cornellian, 16 Kil., per doz..... | 72 00 @ |
| Cornellian, 12 to 14 Kil., per doz..... | 65 00 @ 70 00 |
| Ozerule, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100..... | 65 00 @ |
| Robert Calf, 7 and 8 Kil..... | 25 00 @ 40 00 |
| Common French Calf Skins, 3 lb..... | 35 00 @ 75 00 |
| French Kips, 3 lb..... | 1 00 @ 1 30 |
| California kip, 3 lb..... | 65 00 @ 80 00 |
| Eastern Wheel Stuffed Calf, 3 lb..... | 1 10 @ 1 25 |
| Eastern Calf for Backs, 3 lb..... | 1 10 @ 1 25 |
| Sheep Roans for Topping, all colors, 3 lb..... | 8 00 @ 12 00 |
| Sheep Roans for Linings, 3 lb..... | 5 50 @ 10 50 |
| Fair Brindle Russian Sheep, 3 lb..... | 4 75 @ 5 50 |
| Best Jodot Calf Boot Legs, 3 pair..... | 5 25 @ |
| Good French Calf Boot Legs, 3 pair..... | 4 50 @ 5 00 |
| French Calf Boot Legs, 3 pair..... | 4 00 @ |
| Harness Leather, 3 lb..... | 30 @ 32 ½ |
| Fair Brindle Leather, 3 lb..... | 48 00 @ 72 00 |
| Skirting Leather, 3 lb..... | 34 @ 37 ½ |
| Welt Leather, 3 lb..... | 30 00 @ 50 00 |
| Buff Leather, 3 foot..... | 17 @ 21 |
| Wax Side Leather, 3 foot..... | 18 @ 20 |

A VALUABLE JOURNAL FOR OUR FARMERS AND STOCK GROWERS.—THE PACIFIC RURAL PRESS, published by Dewey & Co., of San Francisco, a weekly journal of sixteen pages, copiously illustrated, and devoted to the interests of agriculture and stock-raising, should have a wide circulation in Montana. Wm. H. Murray, agent for this admirable sheet, is at present in the Metropolis, and will remain here during the fall, soliciting subscriptions. The price, only \$4 per annum, places the RURAL PRESS within the reach of hosts of our people concerned in agriculture and stock-growing pursuits, and that it will be generally adopted into their households we entertain little doubt. Mr. Murray, after canvassing this city and vicinity, will visit the Gallatin and other sections of the Territory, and get up subscription lists in each locality.—*Helena Herald.*

SUCCESS IN BUSINESS.—Success in the business world usually depends upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24 Post street, San Francisco. This is the only school on the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which cannot be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address E. P. HEALD, President, Business College, San Francisco, Cal. 10v23bp-3m

Go to the Best.—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS. M. K. LAUDEN, President, San Francisco, Cal.

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

THE PEOPLE'S PRACTICAL POULTRY BOOK.—A work on the Breeds, Breeding, Rearing and General Management of Poultry, by Wm. M. Lewis. Illustrated with over 100 Engravings New York, 1871: Sold by DEWEY & Co., at this office, for \$1.75. Post paid, \$2.00.

THE RURAL PRESS.—Believing as we do that every farmer in our valley would be well repaid for the expenditure of a few dollars in procuring a good paper specially devoted to the agricultural interests of the Pacific Coast, we commend the PACIFIC RURAL PRESS as the best one within our knowledge for the purpose. Any of our subscribers desiring a specimen copy can have it by application at this office, and in a club with this paper, subscription can be had at reduced rates.—*Independent, Inyo Co.*

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The first No. evinces marked editorial ability.... Fills up a vacancy that has been felt in our agricultural department... With its publishers there is no such word as fail.—*Ms. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, \$4.—*San Jose Dem.*
It is a work which no farmer should be without.—*[Treach Union.]*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press*. If the first number is to be taken as an earnest of what will follow, each week, we can advise to say to all interested in agricultural pursuits, subscribe.—*[Vallejo Chronicle.]*
Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.
We notice that L. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of

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To Tourists.

Your attention is called to the fact that Three Prominent Places of Resort can be visited in one trip, accessible the year round, viz:

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1871.

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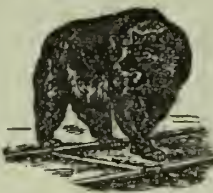
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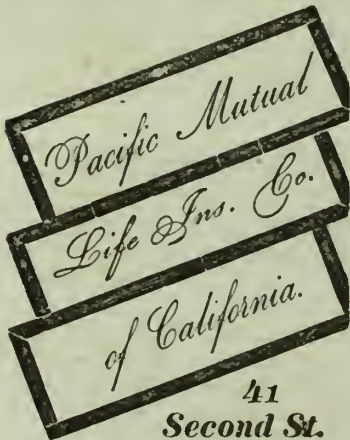
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ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M. W. Grand Lodge, F. A. M. of the State of California, at its Annual Communication, October, 1870. Whereas, in the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the Masonic Mirror, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said Masonic Mirror to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.

At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted: Resolved, That we recommend the Masonic Mirror, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the Masonic Mirror, published in this city be the official organ of this Grand Consistory.

TO ADVERTISERS.

The Mirror presents the best Advertising medium on the Pacific Coast, as it circulates in every town and hamlet, and among a class of citizens that it will be advantage to advertisers to reach.

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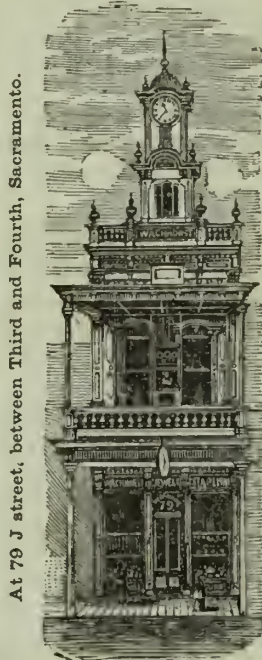
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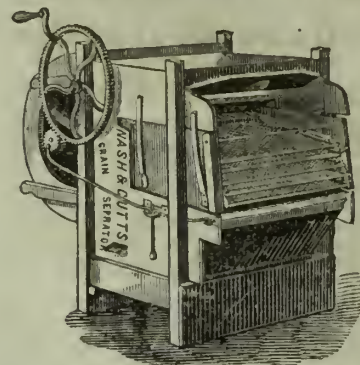
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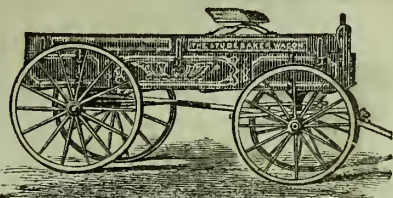
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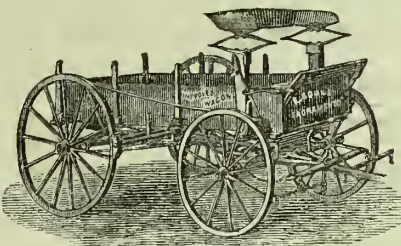
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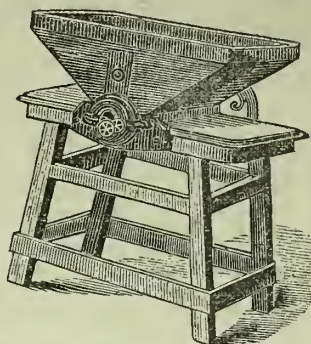
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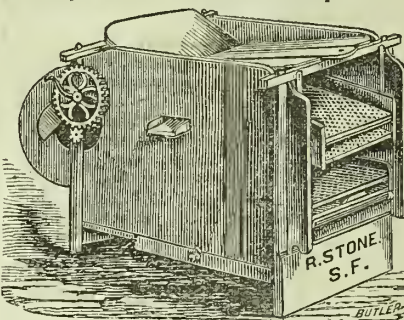
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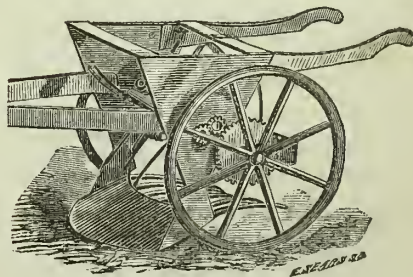
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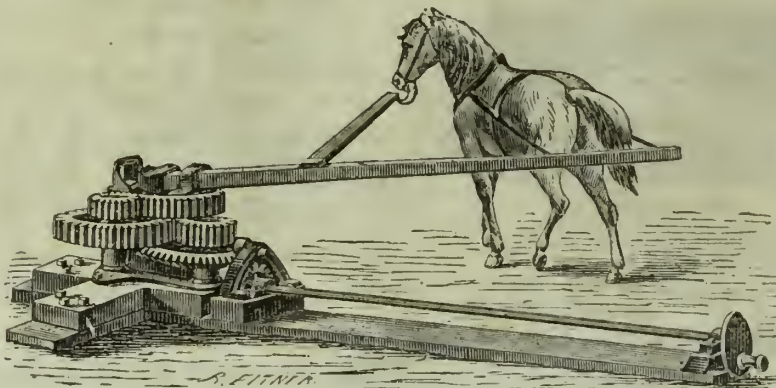
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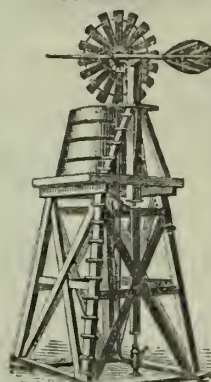
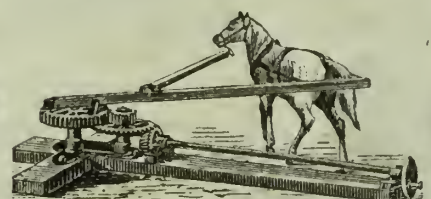
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Volume II.]

SAN FRANCISCO, SATURDAY, NOVEMBER 11, 1871.

[Number 19.]

Our Ukiah Correspondent.—Words of Cheer.

EDITORS PRESS:—Several months ago we were contributing to your useful journal a series of articles entitled, "Short Papers on Agriculture." A change in our business relations compelled us to suspend these contributions.

The time has now arrived, when we may have leisure to resume this series of papers, at least to the extent of furnishing an original contribution.

It is very pleasant to think of renewing our correspondence with our old friend, the PACIFIC RURAL, whose good qualities, we have thought from our first acquaintance, rendered it altogether worthy of our fellowship and esteem. Men of practical common sense generally win our affection. With equal facility, a practical, solid, unostentatious newspaper finds the shortest way to our hearts. Therefore we need hardly take the trouble to state, formally, that the PACIFIC RURAL has been with us a great favorite. It is with us a most instructive and entertaining family journal, always full of sterling matter, without any trash or clap-trap, such as many popular sheets are filled with in order to widen their circulation.

It is well adapted to instruct and interest all classes of working people, who are in truth, the pillars of a nation, while at the same time, men of literary and scientific tastes are delighted and profited by the reading of it.

No paper that we are acquainted with furnishes the same amount of useful and instructive matter for the same money. No farmer who desires to keep abreast with the age in agricultural improvement can afford to be without the PACIFIC RURAL PRESS.

There is a real pleasure in corresponding with a journal of this description. One loves good companionship, and especially so on a mission of usefulness.

We shall, therefore, resume our former relations with this journal, as one of its correspondents, and continue, if not regularly, at least occasionally, the series of articles which we had been writing for it, up to April of the current year.

The papers already contributed were devoted mainly to the history of Agriculture from the earliest ages of the world down to the breaking up of the Feudal System in Europe, and a brief glance at its condition for a century or two after the first dawn of returning civilization.

We mentioned the first reformers in this department of human industry, and we also indicated the methods, which, guided by a knowledge of mineral and vegetable chemistry, led to marked improvements in this field of industry.

The subject of agricultural history has been pursued as far, perhaps, as would be interesting or profitable to the reader. We shall, therefore, look at the subject of agriculture from other standpoints, and present such views, as we may think useful to the reader; and by and by we will present some interesting facts as the result of experiments that have come under our own observation.

The time has come when the farmers of California must change their programme; otherwise pauperism and bankruptcy will deluge the State, and compel an exodus which will be counted by thousands.

J. R. THOMAS.

The Century Plant.

Among the famous plants which have been popularly endowed with mythological characteristics, the American aloe,—scientifically denominated the *Agave Americana*, and very commonly called the Century Plant—is entitled to a high place. Born in the tropical regions of America,

ished blooming in the garden of Gen. R. W. Kirkham, in Oakland, a twin to the one of which this engraving is a representation. We had the pleasure last Sunday of seeing this floricultural curiosity and were well rewarded for our walk.

In Mexico this plant grows luxuriantly, and its sap when extracted and allowed to ferment, is made into a liquor called "pul-



THE CENTURY PLANT.

the plant has been transplanted to many other parts of the world, and is now not uncommon as a hot-house plant in Northern Europe, and as a perfectly naturalized product of the warmer portions of southern Europe and Africa.

Although the American aloe does not require the *whole* of a century to come to maturity, yet it may take quite a long period before it gets ready to flower, and when it has once made up its mind so to do, it devotes itself so energetically to the task, that, on its completion, it has no strength for further existence, and dies in propagating its species.

A plant of this description has just fin-

ished blooming in the garden of Gen. R. W. Kirkham, in Oakland, a twin to the one of which this engraving is a representation. We had the pleasure last Sunday of seeing this floricultural curiosity and were well rewarded for our walk. In Mexico this plant grows luxuriantly, and its sap when extracted and allowed to ferment, is made into a liquor called "pul-

Aid for the Farmers.

A very laudable enterprise has just been set on foot in this city, the design of which is to provide destitute farmers, in the agricultural districts throughout the State, with means for procuring seed and putting in crops for the ensuing season. At a meeting of the Executive Committee, held on Tuesday last, to inaugurate measures for this praiseworthy object, the following gentlemen were present: Messrs I. Friedlander, Thomas H. Selby, W. F. Babcock, Alexander Austin, David Meeker, W. T. Garrett, Thomas Breeze, S. C. Harding, Dr. C. McRuer and Washington Bartlett. Hon. Thomas H. Selby was elected Chairman: Hon. David Meeker and Messrs Thomas Breeze and Alexander Austin were appointed a committee, to canvas the city and obtain subscribers for the stock of an incorporated company, which it is proposed to organize with a capital of \$100,000, divided into ten thousand shares of \$10 each, for the following object: To raise funds to be loaned to farmers and other worthy persons at low rates of interest, for the purpose of purchasing provisions, and seed, to enable them to raise crops in those portions of the State, where through loss of crops from drought, such aid is needed. If sufficient stock is taken and encouragement received in furtherance of the enterprise, the company will be immediately incorporated, and the following named gentlemen will act as trustees and conduct its affairs: Messrs. I. Friedlander, T. H. Selby, Alexander Austin, Charles Clayton, W. A. Bray, M. S. Latham and Albert Dibblee. Subscription books have been placed in the hands of the committee and may be also found at the Merchants' Exchange.

The imperative demand for an enterprise of this character upon the part of the capitalists, merchants, and business men of this city will be patent to all who are familiar with the present distressed condition of the farmers in those portions of the State, which have suffered most from drought. In many localities whole families are upon the brink of starvation, and are only sustained by the assistance of charitable strangers. They have no means whatever to procure seed or put in their crops. It is the purpose of this company to come to the aid of such persons, and provide them with funds with the agreement, that the money furnished them shall be refunded from the proceeds of the crops.

The farmers do not ask for charity but only a loan, until they can harvest their crops. San Francisco responded nobly to the call for aid from Chicago, and it is to be hoped that our citizens will not be behind hand in answering the demand for temporary assistance upon the part of the unfortunate farmers in our own State. In furtherance of this project, we will be happy to publish in our columns the notices and advertisements of the company, gratuitously.

The wine trade of France employs \$580,000,000.

MECHANICAL PROGRESS.

Phosphor-Bronze.

A number of experiments have recently been made in Europe, on an alloy of copper and tin containing phosphorous, to ascertain its hardness and tenacity in comparison with cast-steel. A recent number of the Houghton (Lake Superior) *Mining Gazette* contains quite a long article on the subject of these tests and the approval which the alloy is said to have obtained on the part of those who have used it.

They think that the general adoption of the alloy, in place of other metals, for ordnance and for certain other purposes for which cast-steel or even cast-iron is employed, would be highly advantageous to the parties using it, and also to the copper mines of Lake Superior.

The new alloy can, they say, be made as tough as wrought-iron; its hardness, on the other hand, may be regulated to equal that of steel; its elasticity is great and holds out undiminished until rupture; its fluidity is such that the 20-inch gun and the clock-wheel may be cast with equal soundness, accuracy and perfection; its homogeneity is complete, its grain as fine as that of cast-steel.

According to a table showing the tenacity of various varieties of the new alloy, one specimen broke with a strain of 52,625 pounds to the square inch of section, while another showed an elastic resistance of 24,700 pounds to the inch.

They say that according to advice from Dr. Kunzel, dated April 26, 1871, the Prussian Government "has definitely and in principle adopted the phosphor-bronze for the field artillery of the entire German Empire;" but they are, we think, misinformed. The statement that cannon made of phosphor-bronze "will withstand the highest test to which the celebrated Krupp steel guns are subjected" is not, we believe, confirmed by the latest reports in the *Augsburger Zeitung*, which recently commented on the competitive trials.

We are informed, also, that in order to test the adaptability of phosphor-bronze to such parts of machinery as are subjected to violent and sudden shocks, the cog-wheels of Messrs. Gilliaux & Co.'s heaviest iron rolling mill, which had hitherto been made of best cast-iron, and which broke down at least once a week, were replaced by phosphor-bronze gearing (weight about 8 cwt.), which has now been in continual use for more than ten months, and is yet in perfect condition.

If this is so, and there seems to be no good reason to doubt the truth of the *Gazette's* statement, a wide field is open for phosphor-bronze, and we sincerely hope that it will so increase the demand for copper as to render possible the profitable working of many of our good copper mines which are now lying idle.—*Engineer and Mining Journal*.

Finishing Steel.

Of all the methods or processes of working and finishing of steel, probably there is none extensively used about which so little is known by mechanics in general as that of the "friction wheel," and this lack of knowledge has no doubt kept its use confined within the bonds of almost a single class of work. It is generally known that the smooth edge of a soft steel or iron wheel, when run at a high speed, will cut tempered steel, soft steel, iron, and other substances very rapidly, but with it goes the belief that steel so cut is practically ruined for all useful purposes. This is true only to a certain extent, and is entirely avoidable by a proper speed of the friction wheel and a skillful operator. A smooth steel wheel running with a periphery speed of two to three miles per minute, will cut steel at a rapid rate, and without heating it to such an extent as to even change the color, the cutting wheel, too, retaining its form for a great length of time without being returned. Not only the spiral sides of augers and auger bits are smoothed out and finished by friction wheels, but the fine screw points of the same are wholly formed by the sharp edge of a soft steel plate run at the frightful speed of 14,000 revolutions a minute. The freedom from heating or burning the work, as well as the accuracy and beauty with which it is done, is unquestionably in a great measure due to the skill of the operator; still this skill may be matched by the skill of the inventors, and the friction wheel applies to hundreds of purposes yet unthought of.

Seasoning Timber by Steam.

All seem to agree that timber or lumber dried by steam is not so good as weather-seasoned stuff. The loss is in elasticity and strength, and consequently, also, in durability. But steam-dried wood does not absorb any more moisture than weather-dried; in either case, the absorption is from five to ten per cent. All bending should be done just as it comes from the steam-box, while the wood is yet in a hot damp state, and *never after*. Indeed, all wood intended for bending purposes should never be allowed to dry before bending. No cooper will buy dry hoop-holes, because they have lost their elasticity and toughness. It is true we have once seen dry veneers put on circular lintels, but the glue alone held them in position, and we pitied the owner of the house. Only one question remains unanswered, to wit: "Is steam-dried timber more apt to warp than air dried?" We answer, no; it is less, and this, in addition to the time gained, appears to us of such importance that we think the whole subject worthy of more consideration than we are now prepared to give it. Meanwhile, we advise not to hire steam for drying lumber before one is fully posted on the process. Green timber, in order to be dried thoroughly by steam, should be treated, first, for at least twenty-four hours, by free steam, and then from eight to twelve days by dry or superheated steam. A single steam-bath in a box will most certainly not effect a thorough drying, or make the wood even approximately, like weather-seasoned material. Quick drying of wood is an art hitherto little attended to by chemists, although it is an interesting and profitable field. Notwithstanding the general assertion that artificial processes damage lumber, we are among those who believe the day not far distant when wood will be dried artificially, without deterioration, for many mechanical purposes.—*The Hub*.

XYLONITE.—Xylonite is a substance of which the chief ingredient is chemically allied to gun-cotton, being formed by the nitric acid upon woody fibre. One of the chief uses to which it is applied is for making impermeable sheeting; and if all that is said about it bears the test of experience, it bids fair to take the place of india-rubber. Different samples of waterproof fabrics vary in substance from a thin transparent tissue up to a thick, strong cloth suitable for water-beds, water-cushions and other articles where strength of fabric is all important. Xylonite has several advantages over india-rubber. It is not affected by a boiling temperature, and can be readily washed in soap and water and ironed like ordinary linen or cotton fabrics. It is not acted upon by oil or grease. Xylonite materials can be made of any color, are considerably cheaper than similar gutta percha or india rubber fabrics, can be used again and again, and can be kept in store for any length of time without deterioration.—*London Lancet*.

BLASTING TIMBER WITH DYNAMITE.—Some extensive experiments have recently been made in the Forest of Haye, on the use of dynamite in blasting timber, which is found to be far more effective than ordinary powder. The dynamite was applied to some large stumps sawed from trees which had been uprooted in a storm and become thoroughly seasoned. A ¾-inch hole was bored down the center of the stump 9 to 15 inches deep, which was charged with a dynamite cartridge of 50 grms. The discharge would divide the tough root into quarters, and so otherwise shatter it that it could be easily broken up by the workmen. In this way profitable results were obtained from timber, which would otherwise have been abandoned.

SURFACE BLOW FOR STEAM BOILERS.—A new attachment to steam boilers has been invented, whereby the light scum on the surface of the water can be blown off. An inverted cup is suspended, by means of a vertical pipe, from the top of the boiler, so that its lower edge will be a few inches above the water line. A suitable cock is fitted into the pipe. To blow off the surface of the water, the pipe is opened, when the steam under the cup will escape, relieving thereby the water directly beneath from pressure, and causing the same to ascend and follow the steam through the pipe. The light surface scum will thus be entirely ejected, as it flows under the cup to fill the space formerly occupied by the escaped water, and is there also drawn up by the suction.

SCIENTIFIC PROGRESS.

Ice Fleas.

Dr. Franklin, while recently rambling among some of the Alpine glaciers turned over some small, isolated stones, under which he observed numerous small, black insects, much resembling the common flea, and, like that insect, jumping many times its own length at a single spring. The insects were not found under every stone; but a little observation showed the conditions under which they were found, which the doctor described as follows, in *Nature*:

They generally occurred under flattish fragments of rock, presenting a surface of about a square foot, and having a thickness of from 2 to 4 inches. Stones of this size are sufficiently warmed by the sun's rays to melt the ice beneath them more rapidly than it is liquefied by the direct solar beams. A surface of rock absorbs luminous thermal rays better than does a surface of comparatively white ice, and it transmits these rays to the ice beneath it, partly by conduction and partly by radiation from its under surface. The stone thus melts its way an inch or two deep into the ice, forming for itself a kind of basin. Sometimes these cavities are water-tight, and then any space between the stone and the walls of its basin is filled with water derived from the melting ice. Under such conditions I never found any fleas beneath the stone. But occasionally the ice basin is drained, and it was under stones resting in such comparatively dry basins that the insects were found. In all cases, nearly the whole of the fleas were found upon the ice, very few being attached to the stones. They were grouped together in shoals, so so that probably 40 or 50 of them frequently rested upon a single square inch of ice. On removing the stones, the insects were very lively, owing probably to their sudden transition from comparative darkness to direct sunlight.

I saw no indications of food of any kind beneath the stones, but we have not to search far for a possible source of food. The cold of the glacier benumbs and kills thousands of insects which alight upon its surface, and bees, wasps, flies, and moths are frequently seen dead upon the ice. Then there is the so-called "red snow," and other allied organisms of similar habits, which may perhaps minister to the wants of this singular insect. Is the ice flea, like its irritating cousin, a nocturnal predatory insect, and does it issue from its abode at nightfall in search of frozen bees and butterflies?

FREEZING OF WATER UNDER PRESSURE.—M. Boussingault, after briefly referring to the experiments of the Florentine Academicians, and of Huyghens (1667), on the force exerted by the freezing of water in closed metallic vessels, relates a series of experiments made by him last winter in order to ascertain whether water, when put into a strong vessel (a steel cylinder of great strength, and so arranged that the dilatation, or expansion of the water, when cooled below 39° F., could be prevented), would or would not remain liquid, even when exposed to a cold very considerably below its point of congelation, in consequence of the expansion due to the cooling down from below 39° F., being prevented by the strength of the vessel containing the water and stopper (steel plug), fitted thereto. The result of this investigation was found to be that water remains liquid under the conditions alluded to, even at a temperature of zero, Fahr., but freezes instantaneously as soon as the impediment, caused by the resistance of the plug which hermetically closes the steel vessel, is removed, and free play given to the expansion of liquid. It should be noted that the sides and bottom of the steel vessel alluded to were of such strength as to be practically unyielding.—*Acad. of Science*.

PHOSPHORESCENCE AND FAT.—M. Panceri, in a paper presented to a scientific association, at Turin, claims to have established that the phosphorescent substance in fishes, in whatever part of the body it may be situated, is also fat, and that the phenomenon is due to its slow oxidation in contact with air. The skin of fishes is permeable to gases, and the oxidation of the subcutaneous fat proceeds without difficulty. Phosphorescence shows itself, as a rule, some time after death, and continues until putrefaction sets in; accompanied by the disengagement of ammonia, phosphorescence ceases. Phosphorescence is prevented by the presence of fresh water, alcohol, or carbonic acid; oxygen, on the other hand strengthens the phenomenon.

ABSORBENT POWERS OF CHARCOAL.—Dr. Hermann Vohl, of Cologne, has lately published an elaborate paper in the *Archiv der Pharmacie*, upon the absorbent power of charcoal and its application for disinfectant and deodorizing purposes, replete with suggestions of great importance.

Among other deductions from his experiments, he states that the carbonic acid gas obtained by heating charcoal is not derived from the coal itself, but has been absorbed from the atmosphere, and is held with such tenacity that it can not be driven out by boiling in water, but that a temperature much below that of ignition is sufficient to expel it. This conclusion is the same as that which had been reached by another experimenter, to which we have previously made reference. Among other facts proving this statement, Dr. Vohl remarks that when charcoal has been once freed from its carbonic acid and saturated with pure oxygen, no trace of carbonic acid is appreciable, even when heated to a temperature of 680° Fah.

THE BAROMETER AND THE SEA LEVEL.—Dr. Carpenter in a late communication to *Nature*, calls attention to the neglect, in the late discussions upon the ocean currents, of published observations made upon the influence of variations of barometric pressure upon the sea level. In this connection he remarks that, according to one author, a fall of one inch in the barometer is pretty uniformly accompanied by a rise in the sea level to about thirteen times this amount, or thirteen inches; and another makes the ratio to be about one to thirteen and a half inches, this being subsequently corrected by about twelve and three-fourths inches. Dr. Carpenter thinks that this relationship of barometric pressure to the height of the tides may serve to explain a number of anomalous phenomena that have perplexed observers, especially with reference to unusual rises of tides, and their retention at high level longer than customary.

DECIDUOUS NATURE OF THE RHINOCEROS'S HORN.—The statement that the horn of the rhinoceros is deciduous, or, at least, can be reproduced when accidentally lost, has been confirmed lately at the Zoological Gardens in London. One of the animals, a male Indian rhinoceros, had been in the habit of trying to raise a transverse bar keeping him off from the pen of the female, and this was attempted at one time with so great violence as to tear the horn entirely off. Considerable loss of blood ensued, which, however, was soon stopped and the surface healed. Soon after indications were observed of the formation of a new horn, which, at the date of the account, had already attained a height of one and a half inches. The old horn was about twelve inches high, and its base eight and a half inches in the long diameter and five and a half across.

MR. CHARLES DION, of New York, proposes to place an apparatus on steamers and other vessels, so arranged as to sound an alarm on approaching the vicinity of an iceberg. The device is arranged on the bottom of the vessel, and is of such a nature that when the keel strikes any very cold strata of water the alarm is sounded. It is well known that icebergs refrigerate the water around them for a considerable distance. Mr. Dion's instrument will exhibit the exact temperature of the water below the vessel at all times.

DANGERS OF CHROMIC ACID.—M. Gubler, remarks that chromic acid is one of the most powerful of caustics. Only the monohydrated sulphuric acid at all approaches it in strength. It acts rapidly, setting free a considerable amount of heat, so that the temperature may rise 125 or 150 degrees. If we plunge a small animal, such as a mouse, into a concentrated solution of chromic acid, it is instantly reduced to a cinder; and the ebullition is so great that unless care be taken, the mouse and a part of the solution are forcibly ejected.

GUN POWDER.—When gun powder is ignited and the resulting gas cooled down to the ordinary temperature of the atmosphere, it is found to occupy only 900 times the space of the powder. But when it is ignited in ordinary projectiles, so that the gas generated is at a high, red heat, the gases will occupy 2,500 times the space of the solid powder. Thus we see whence is derived the enormous force of powder, when ignited in a place of close confinement, where the gases may be elevated to their practical temperature.

CORRESPONDENCE.

ENCOURAGING FACTS FOR FARMERS.

EDITORS PRESS:—At a time of trial, like the present, for the farmer and tradesman of California, after two unusually dry years in succession, when some are still hopeful, and others despondent with regard to the coming seasons, the question arises on all sides: What good cause have we to believe there will now be a change for the better? What proof have we that we may now reasonably expect a succession of seasons favorable for grain-raising? To base hopes, at such a time, upon mere theory or conjecture, would indeed be like trusting for support to a broken reed; but have we not more reliable ground for hope in a correct rain-table for California, which is but a faithful history of the rains of past years? Let us examine for ourselves and see: A country is fortunate when its annual rain-fall has been recorded so many years that we can make some general deductions, or arrive at any fixed principles in the succession of its seasons. Have we any such guide in California? We think, whether mistaken or not, that we have one in the rain-table of Dr. Logan, at Sacramento, for each month and year since 1849.

This table will be found in a former number of the RURAL PRESS, but it is of such general interest and value that it will bear republishing. A careful comparison of the rain-fall for these 22 years shows some points of regularity in the succession of wet and dry years, which is perhaps without a parallel in any other country.

It may be well to observe that although Dr. Logan's observations were for the city of Sacramento alone, there is good reason to believe that the annual rain-fall throughout the greater part of Sacramento and San Joaquin valleys, is very nearly the same as in his table. And even where the amount each year may range above or below the amount he gives, there is every probability that the principles of succession which we shall endeavor to point out, will apply equally to all portions of California. In this part of the San Joaquin valley, 45 miles southeast of Stockton, and 80 miles southeast of Sacramento, our rain record extends back only to the winter of '68 and '69; but so close has been the correspondence between the yearly amount here and at Sacramento, for these three years, that it leaves no doubt Dr. Logan's table is a very correct standard for the annual rains of San Joaquin valley since '49.

For instance, the amount of rain at Sacramento, for the winters of '68, '69, and '70, were 16.64, 8.63, and 7.55 inches respectively, while here they were 15.11, 8.64, and 7.24. What then are these principles of succession in the seasons of California to which we allude, as proved by this rain-table? Examine the rain-fall for each year since '49 at Sacramento, as copied below. Whenever the annual amount is less than twelve inches, call it a dry year and observe the result:

| Winter. | Inches. | Winter. | Inches. |
|---------|---------|---------|---------|
| 1849-50 | 36.00 | 1860-61 | 15.54 |
| 1850-51 | 4.71 | 1861-62 | 35.54 |
| 1851-52 | 17.98 | 1862-63 | *11.57 |
| 1852-53 | 36.36 | 1863-64 | *7.86 |
| 1853-54 | 20.06 | 1864-65 | 22.51 |
| 1854-55 | 18.62 | 1865-66 | 17.92 |
| 1855-56 | 13.77 | 1866-67 | 25.30 |
| 1856-57 | *10.43 | 1867-68 | 32.76 |
| 1857-58 | 18.99 | 1868-69 | 16.64 |
| 1858-59 | 16.05 | 1869-70 | *8.63 |
| 1859-60 | 22.62 | 1870-71 | *7.55 |

The dry years are those marked with a star; that is, the winters preceding the harvest of '51, '57, '63, '64, '70, and '71. The first principle then to which we allude, we deduce from a fact which has been repeated three times in twenty-two years, as can be seen at a glance, and is this: We have either one or two dry years, followed, in each instance, by five fair seasons in succession. The second principle is, that after each of our driest years we may expect over seventeen inches of rain. For immediately after the dry season of '51 there were nearly 18 inches, after '57 nearly 19 inches, and after '64, 22.51 inches.

We may also call attention to four other facts in passing:

1st. The average yearly amount is 19 inches.

2d. But once in each series of five fair

years have we had more than 30 inches of rain, and those were years of heavy freshets.

3d. No two winters, in succession since '49, have been so dry as the two through which we have just passed.

4th. It is seen that the smallest annual rain-fall for 22 years, at Sacramento, was less than five inches, the greatest but little more than thirty-six inches; and that one of our wettest winters has never in that time, come immediately after one of our driest years, and but once (in '49) immediately before.

Now what solid encouragement, as regards the coming winter, can our farmers and other business men draw from this rain record of the past? One of our leading papers, in an article containing many cheering words, uses this language:

"Everybody predicts a good season; but when we come to look into the matter closely, we find no reason or ground for the prediction, beyond the general wish that it may be so."

Now can we not find good reason and ground in this rain table, to expect a very favorable season the coming winter, if not the best? Let us remember these figures record facts, not conjecture; they are history, not fallible memory.

So surely as Dr. Logan's measurements and figures are correct, and no doubt they are; and unless the laws of nature, which make the seasons on our coast, have been changed, and this would be a miracle hardly to be expected in our day, we may with well grounded confidence now expect at least five fair seasons in succession, some of which will be our best and in one of which we will have over 30 inches of rain; and we may confidently look for a rain-fall this winter, ranging at least from 17 to 22 inches. This amount will certainly insure a good yield of grain on all early-sown land, for our harvest of '69 was produced by a rain-fall of from 15 to 17 inches throughout most of our inland valleys. But even with these rains, our systems of irrigation, when completed and made reliable, will give double assurance of good crops.

Another lesson taught by a careful study of Dr. Logan's rain-table is, that we can not reasonably expect one of our wettest winters, nor highest freshets, this season; but the probabilities seem to be strongly in favor of the heaviest rains and freshets in the winter of '72 and '73.

J. W. A. WRIGHT.

Turlock, Stanislaus Co., Oct. 28th, 1871.

"Slate Books."

EDITORS PRESS:—The Silicate Book Slate is an invention—not very well defined by its name—by which a hard surface fit to receive pencil marks of all kinds is put upon any desired substance. We have been using a memorandum book with a silicate surface prepared for the lead pencil. It is very nice to write upon, takes the marks perfectly and retains them as long as may be desired, and then in a moment by using moisture every mark may be removed. When the surface is black the slate pencil can be used equally well.

We saw a large sheet of pasteboard at the Fair coated with the silicate surface and designed for the use of a draughtsman in a machine shop. He intended to use it for making his first designs upon. Of course whenever it was necessary to change a line he could do it with the greatest ease, yet the whole drawing would be permanent enough to last until copied.

The Silicate Book Slate Company of this city, to judge from the display made at the New York fair, must manufacture a hundred different articles in which these silicate surfaces are used. Among them we noticed blackboards, account books, time tables, wages books, wash bills, memorandum books, school slates, tablets, drawing books, ruled books for rough draughts of writings, and a great many other things. All of these are made for both lead and slate pencils. W. E. P.

New York, October 15, 1871.

EMINENT French savants declare that the excessive use of brandy and of absinthe differ in results, brandy producing tremors and delirium, while absinthe superinduces epilepsy.

PHOSPHORESCENCE IN FISHES.—An Italian naturalist attributes this phenomenon to the slow oxidation of fat by the air penetrating the skin. Fresh water, alcohol, or carbonic acid prevent and oxygen favors the phenomenon.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.

BY OUR TRAVELING CORRESPONDENT.

EDS. PRESS:—According to promise in my last letter, I will proceed to give you the acreage, stock, and productions—in cereals, vegetables, fruits, etc., of some of the principal ranches of the valley surrounding Gilroy.

Hon. J. P. Sargent's Ranch,

or what is better known as one of the Sargent Bros' ranches—there are 3 in all,—is located 5 miles south of Gilroy, and contains 8,000 acres of choice land,—only 500 of which are under cultivation, the balance being used for stock and dairying. The wheat from the farm this year produced 80 bushels, the barley 70 bushels, per acre—the latter is not considered a large crop here. This ranch is also stocked with 1,000 head of cattle, and 200 head of dairy cows, the latter under the management of

J. C. Roche, Esq.,

who is at present making cheese. The arrangement of this dairy is very complete and orderly, and all the new improvements in the dairy line are brought into requisition. The dairy and buildings for successfully carrying on the same, are situated about one mile further south of the main improvements,—which cost at least \$20,000, including fences.

His Fine Stock

consists of seven-eighth and thoroughbred Angora or Cashmere goats, 300 head of a lower grade, 70 head of fine horses, of the Patchen, Hambletonian, Speculation, and Jack Hawkins stock, worth from \$100 to \$1,000 each; a Speculation colt named *Quien Sabe*, Mr. S. sold a one-half interest in for \$1,000 to J. G. Sanchez, Esq. Quite a number of three and four minute animals may be seen on this ranch. It is well watered and timbered, with water-power sufficient to drive any kind of a manufactory. A fine

Asphaltum Bed

is situated on the ranch, and some eight tons are being shipped from there daily, by contracting parties. Some 20 men in all are employed. The Sargent Bros. own two other extensive stock ranches elsewhere, one situated near Woodbridge, in San Joaquin county, consisting of 16,000 acres (the particulars of which I gave in my letter from "San Joaquin county," in RURAL of January last,) also another near Monterey, in Monterey county, of over 16,000 acres.

Henry Miller, Esq.,

one of the most extensive land owners on the Pacific coast, has a home ranch of 23,000 acres of extra fine land, the improvements of which are situated three miles south of Gilroy; has also 8,000 acres more near San Juan, in Monterey county, and under the firm name of Miller & Lux, owns 65 miles in extent along the San Joaquin River,—a portion of which you illustrated in last week's RURAL.

His Fine Stock.

I venture to say, no single individual in this State owns more fine cattle and horses than are full-blooded, and of the choicest breeds than Mr. Miller. His fine horses will average from \$400 to \$4,000 each, and there are over 100 of them. He has one stallion of the Clydesdale breed that he paid \$3,000 for. His buildings, fences, fruit, shade trees, and improvements generally correspond in perfect harmony with his extent in acres.

Hon. W. Z. Augney.

This gentleman, at present holding the important position of Commissioner of Equalization, is also a tiller of the soil. He owns 370 acres and cultivates about 100 acres of fine land, 3½ miles west of Gilroy, situated partly in the foothills, making it a very desirable farm for the cultivation of the grapevine, of which Mr. A. has in 10,000. That portion cultivated this year was in wheat, rye, and tobacco, and a fair crop was harvested.

Reeve Bros.

The above-named gentlemen lease 1,500 acres, a portion of which is the Martin ranch, the balance on the Sheppard farm; their improvements are situated one mile southeast of Gilroy; they have 500 head of fine milch cows, at present, milking 270, making cheese only, and turning out annually 152,000 pounds. They have all the various new improvements in machinery for curdling, heating, and pressing the cheese. They have one 500-gallon vat called the Union Dairyman, patented by O'Neil of

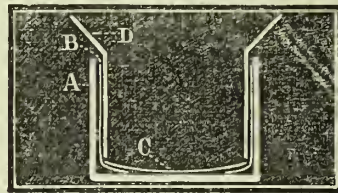
Utica, N. Y.; J. G. Anderson, of Gilroy, has the agency of this coast. This vat is so constructed as to allow water to be heated in an end of it, and at the same time keep the milk perfectly cool in the main vat; they are made of different sizes to contain from 100 to 800 gallons. These gentlemen also bring into requisition six of the New York cheese presses. All of the above improvements give general satisfaction.

Massey Thomas

has 480 acres of land, and farms 350, one mile south of Gilroy. Cereals raised are wheat, barley, and oats. From 110 acres, the past season, Mr. Thomas reaped 2,000 sacks of barley, and from 175 acres got 1,500 sacks of wheat; his crop was quite light this year. His stock consists of 75 cattle, 80 head of horses, and one fine stallion, Scottish Chief, bred by Samuel Martin, and was valued at \$1,200 at 3 years of age; he is now in his seventh year. At the Bay View Fair this year he took the first premium for all work. Scottish Chief weighs 2,600 pounds.

Mammoth Cheese—Fine Dairy.

Samuel Cole, Esq., leases of H. Miller 500 acres, situated 4½ miles a little east and south of Gilroy, and has the same stocked with 140 head of good milch cows, that average 300 pounds of cheese to the cow, annually, besides raising the calves to maturity. I saw one cheese at the dairy that weighed 320 pounds. It was the same that took the first premium at the last State Fair; Mr. Cole also took the first premium at the same fair for the largest and best assortment, and best old cheese. Mr. C. is also an inventive genius; he has an invention of his own—though not patented—for banding the cheese (see accompany-



A—Cheese hoop. B—Cloth band. C—Cloth cover. D—Funnel.

ing engraving,) which is put into position before the cheese is made. It consists of a funnel the same size in circumference as the cheese to be made, the band (made of cotton cloth,) is stretched upon the funnel—and then inverted into another, the curd put in at the top, pressed down slightly, and then the inner funnel is removed, leaving the band in place, after which it is pressed, and leaves as pretty a looking cheese, as I have seen anywhere. He also farms some for stock feed, such as corn, pumpkins and sugar cane; of the latter he says he reaped a third crop from some of his land, this season, and says that it always does well. About 100 tons of pumpkins was his crop in that line this year.

Robert Stayton's Ranch.

The above-named gentleman has probability the richest spot of land in this State, so productive is it that I fear to have published over my signature, the sights I saw personally in the vegetable and grain way; suffice it to say, that it is worth any man's while to visit the same, even now, in this dry season. Mr. S. owns a tract of 220 acres, situated about 4 miles a little east and south of Gilroy; is cultivating 70 acres, in all kinds of vegetables, berries, and some corn. He has one field of 11 acres that was planted with corn, potatoes, and pumpkins. The cornhills are 4 feet apart, all over the field, the potatoes are in hills, occupying the space one way between the hills of corn, and the pumpkins were planted in the same hills with the corn; the result,

An Immense Yield.

At least 75 bushels of corn, 300 bushels of potatoes, and 40 tons of pumpkins are now being taken from each acre, of this spot of eleven acres above mentioned. From this same spot, in a good season, (such as four years ago) 1,000 bushels of potatoes were raised on each acre; this year, from one hill of potatoes, (Mr. Stayton informed me) he took 75 potatoes, weighing from one-half pound to four pounds each,—besides 53 smaller ones rejected as too small for market. Mr. S. has four acres in strawberries, and four in blackberries. The place is irrigated by one of the finest artesian wells in the county; it is 313 feet deep and with a 7-inch pipe flows a stream 5-inches solid—above the top of the pipe—4 feet above the surface of the ground. In the different departments 20 men find regular employment on this little farm.

[To be continued.]

HORTICULTURAL.

SOME TROPICAL FRUITS.

[Written for the Press, by E. J. HOOPER.]

As there are various parts of California, (particularly the more Southern, where, of course, the PACIFIC RURAL PRESS is circulated), which are adapted more or less to the cultivation and maturing of many, if not all, of the various edible tropical fruits which are produced in the warm countries of the world, I have concluded to say something regarding them. On such a subject the knowledge which is given here cannot be expected to be derived otherwise than chiefly from the information of others. Yet it is not improbable that horticulturists and amateurs who may desire to enter into practical operations with such fruits have not the time or leisure to investigate the original books or see the men from which the requisite facts are to be found for successful culture. The works containing instructions for the guidance of orchardists on tropical productions, are to many of the readers of the Press, difficult to reach or obtain, and some of them are in foreign languages. On this account the concentration in one or two articles of the matter bearing on this subject, and elucidating it in some measure, may be found useful, and if I should be the humble means to assist toward the success of raising one good fruit of this kind, beneficial to the community I shall feel quite satisfied for any labor, that I have incurred for this object.

As I have just observed, the PACIFIC RURAL PRESS is being circulated throughout the more southern counties of the State, therefore, and although these productions of the Tropics, in comparison with their number, have received but a slender attention, I think it is now high time for these things to be more attended to than they have hitherto been. To encourage us in their further experiments I will observe that the *Loquat* has repeatedly been perfected at Los Angeles and further south. The *Banana*, and *Plantain* are quite lately reported to have produced their three bunches of yellow fruit; and the *Chinese Guava*, and *Yellow Jambee* are also said to have succeeded a little to the south of Santa Barbara.

I therefore hope that these and many other instances of success, in both the southern and more northerly parts of California will induce our culturists who have the means, to persevere in attempts so auspiciously begun, of adding some of the rich fruits of the East and West Indies, the Sandwich Islands, and China, Japan, etc., to the other delicious articles of our tables.

To encourage the doubtful I would mention the fact that of the many fruits which ornament the gardens of our Eastern friends, the currant, the gooseberry, the raspberry, and but a very few more, are the only kinds which are not natives of a milder climate than theirs.

The fruits which have become most common to countries either within or in the vicinity of the Tropics, or at least to the East and West Indies, are the *Plantain*, *Banana*, *Tamarind* and the *Guava*.

The Plantain, and Banana

are too well known to need much description. Suffice it to say, that, from their nutritious qualities, and general use, they are raised in plenty, more as a necessary article of food than an occasional luxury. They will do well wherever the mean heat of the year exceeds 75°. The bunches often weigh 30, 60, and 80 lbs. Some sorts are of a bright green color. Some kinds are rather mildly insipid, others are of an exquisite flavor, surpassing the finest pear. There is, it is said, one variety of *Banana* of a deep red.

The *Banana* has been found to succeed even where the thermometer descends to 45°. The hardiest variety is called *Camburi*, and is cultivated with success at Malaga. It prefers a rich, fat soil, for in very sandy places it flowers abundantly, but produces no fruit.

Of the Tamarind,

which is not a very uncommon ornament of our gardens and green-houses, the one

cultivated in the West Indies is usually called the common one; but there are three kinds, at least, in the East Indies. In Sumatra the tree grows to the size of a large forest tree.

Of the Guava,

there are two distinct species, both of which form small straggling trees; the one is called *Psidium pyrifera*, or the pear-shaped, and the other *Psidium pomiferum*, or the apple-shaped guava. They are common in both Indies, where they are cultivated for the sake of their fruit, which is eaten either raw or preserved. In the latter case the rind forms the Guava marmalade, and the entire fruit the finest jelly, perhaps in the world. The *Psidium pyrifera* is in perfection before it is quite ripe. It is frequently eaten with wine and sugar. The flesh of the *P. pomiferum* is very firm, and the skin thick; but the flavor is more grateful than that of *P. pyrifera*. The tree always grows in the worst soils. The pulp is sometimes mixed by foreigners, to imitate strawberries.

In the West Indies there are two varieties of the above, the one with red, the other with white fruit; those of the pear-shaped or perfumed species are the most highly esteemed.

The Lote Tree.

In the north of Africa, there is a tree called the Lote tree (*Zizyphus Lotus*), called also *cornu*, bearing a berry of a sweetish taste. The berries are small and of a farinaceous flavor. They are made into bread, by the natives, resembling the finest gingerbread.

In Serra Leone the *cream fruit* is the most worthy of notice, and one of the finest fruits of the world, belonging, probably, to the order of Apocineae. When wounded the two fruits, growing together, yield a quantity of fine white juice "resembling sugar, or the best of milk."

The Country Cherries

surpass all the fruits of Serra Leone; they bear most resemblance to a fine nectarine.

There are many other fruits in Serra Leone, some very good; but these are in the extreme tropics in Africa. In my next paper I will treat on some of the fruits of the West Indies, Brazil, Peru, etc., and the Indian Archipelago, the continent of India, China, Japan, and the Sandwich Islands.

[To be continued.]

FRUIT IN SANTA CLARA VALLEY.—Certainly, it can no longer be doubted, says the *San José Tribune*, that California possesses a soil and climate eminently fitted for the culture of a greater variety of fruits than perhaps any other State in the Union. The grape, the peach, the pear and the apple—the successful rearing of which had been looked upon as somewhat doubtful—the apricot, and even the lime and orange, can be produced in the same garden, and under the influence of our genial sun, mellowed and ripened in the rarest perfection. A significant fact, and one that will be appreciated by the fruit-grower, is the wonderful forwardness and fecundity of all kinds of fruit trees. The apple tree bears from three to four years sooner here than in the most favored localities in the Eastern States. The grape vine will here produce fruit from the setting in two years and sometimes in one—while in Ohio it does not begin to bear until the fourth year. And what is almost incredible, in the garden of Mr. Fallen of San José, there might lately have been seen a pear graft, set in February, which six months afterward matured six large, handsome pears!

Preserving Grapes.

It is said grapes may be kept perfectly fresh and sweet for years, by gathering them when free from moisture, placing them in a tight boxing, pack in alternate layers of grapes and fresh leaves and burying them in dry soil, where neither air nor dampness can reach the box. We have never seen this plan tested but have no doubt of its perfect success. We once knew a gentleman who supplied his table with fresh grapes from one season to another, by a still simpler and less expensive method. His plan was to gather when quite ripe the largest and finest bunches of grapes and pack them in sawdust, using in place of boxes common nail kegs which he purchased for a trifle at hardware stores. After carefully packing the desired number of kegs, he buried the lot in a trench dug in high dry ground beneath a shed where water could neither fall nor soak in. Before using the sawdust, he carefully dried it either in the sun or in an oven until it was entirely free from moisture. We never witnessed the

packing process, but we know he always had the grapes and in this way he told us he preserved them. After being buried for months the grapes were as sweet and finely flavored as if just gathered from the vines. Either process is cheap and may be easily tested. If they will preserve the grape, a new and profitable business might be built up. Bunches of fresh ripe grapes in the spring would be a novelty, and being that, would command a high price. We hope some of our grape growers will test one or both experiments.—*Stockton Republican*.

FARM MISCELLANY.

Great Cattle Sale.

One of the largest and most important cattle sales which ever took place in this State, came off on the 26th of Oct., at the Bellevue ranch, belonging to the estate of the late R. J. Walsh, of Colusa county. The sale was made by order of the executor to raise money to pay off certain legacies, and amounted, in the aggregate to about \$40,000. We gather the following facts from the letter of a correspondent of the *Bulletin*:

The horses, which were all unbroken, were bred from the best American mares by superior horses, sold for 1st, 2d, 3d and 4th choice, one pair each, at the respective rates of \$120, \$120, \$80 and \$67. The balance, 140 head, were sold in a single lot at \$24 each—Dr. Glen being the purchaser.

The bulls were sold respectively as follows:—Choice 1st, 2d and 3d, \$100 each; 4th \$52.50; 5th \$40; 6th, \$5, and the four remaining bulls for \$155—all to Mr. Witherington.

The general horned stock, 1st choice, 5 head, \$100 each; 2d, 10 head, \$70 each; 3d, 10 head, \$59 each, and so on down to the 18th choice, comprising the final 380 head, which sold for \$18.25 per head. In all 11,145 were sold under this head.

The Bellevue Ranch

contains 20,000 acres, extending along the Sacramento river for eight miles. It is mostly fine valley land, and even this last season, the crops over this entire district have been excellent. The late proprietor, Mr. Walsh, died in 1866, leaving this large property encumbered to the extent of \$80,000. There were then about 1,200 head of stock on the ranch. Since then the estate has been managed by the executor, a San Francisco attorney; and as it may interest our readers to know how one of these

Great Ranches can be Made to Pay,

even when it is carried on by proxy—and by a lawyer at that, the following data are given: In five years the total sales of stock and grain have amounted to over \$250,000. The profits may be estimated when the fact is stated that the original debt of \$80,000 has been paid; that over forty miles of fence were built; but there is now as much stock on the ranch as there was five years ago; and that \$40,000, the result of the late sale, is now on hand.

THE NEW WHEAT PEST—THE CHINCH BUG. Throughout the Northwestern States, the ravages of the chinch-bug, a pest with which California has not been visited, have been especially severe. The chinch-bug was unknown in this country until about twelve or fifteen years since, when it made its appearance in the prairie regions. At first it seems to have been confined to the spring-wheat; but now its ravages appear to have extended also to the winter-wheat, and to be getting beyond the prairie region.

There is much uneasiness felt in portions of the Northwest as to this insect, as it seems annually to cause greater havoc in the localities affected. The most careful observers are of opinion that the larvae are deposited in the grain at an early stage of growth, by some winged insect, and develop with the growth of the crop in season to consume most of the grain, and leave behind them, in the grain that is not destroyed, the eggs which, the next season, develop into chinch-bugs. The importation of seed-wheat from localities not affected has been found to afford some security against this destructive bug.

SURPLUS OF WHEAT IN OREGON.—The surplus of wheat in Oregon, this season, is estimated at 75,000 tons, nearly all of which will find its way to Europe.

A Beautiful Mountain Valley.

Our correspondent, F. M. Shaw, writes as follows from San Diego:—In a line one point south of east from this place, and 55 miles distant, upon the summit of the Sierras, where the eye can scan a stretch of yellow waste a hundred miles in width to the eastward, but fails to see the northern and southern limit, just upon the brink of this shelf, which is elevated a thousand feet above the surrounding valleys, there is a plateau, protected on the north and west by gentle wood-crowned heights, and dotted here and there by lakelets of pure mountain water. This mountain valley nearly on the highest ground between the Pacific and the Colorado of the West, contains probably 1,500 acres of as beautifully diversified land as is to be found anywhere within 500 miles.

There are, at this time (October) and have been for months, 5,000 cattle and 20,000 sheep, subsisting within two miles of a point in the center of this plateau, yet it is unowned and unclaimed as yet; and people who have failed to see anything good in San Diego county, will tell you there is no land to be had in this part of the country, fit for occupancy. I have never wintered in this valley, but those who have, tell me that the frosts and snows are not at all severe, and that all the hardiest grains, vegetables, and fruits can be produced there.

Mr. Verlage, from Nice, in the south of France, who now resides in this city, has visited the valley twice, and is satisfied that the climate is equal in salubrity to that of his native hills. He proposes to remove to this mountain cist in the spring with his family, and occupy one quarter section of this unclaimed garden; and it is presumed that he will soon have neighbors. The expression of our correspondent is, that there are yet many such valleys unoccupied, or only partially so, which would furnish healthful and comfortable homes for thousands in these southern borders. It is anticipated that in a few years one will not find so many delightful spots of earth unoccupied.

MONSTROSITIES.—The Nevada *Transcript* tells of a pig born in Grass Valley with a double head, so joined together that the mouth was deformed, that it had two eyes on each side—the eyes being double within one lid. The four ears were perfect, as were the eight legs, and the entire body of each pig, from the shoulders back. The heads were so joined that the breasts were toward each other. The animal, or animals, were fully developed at birth. The pig, or pigs, are the property of Mr. Wm. H. Mitchell, who will have them carefully preserved as a curiosity.

To match the above, a pig with but one eye, and that in the center of the forehead, and something similar to the trunk of an elephant growing out directly over it, is said to be the latest curiosity at La Porte. The improbability of the latter story will hardly do away with the probability of the former.

MEETING OF WINE GROWERS.—The wine growers of Napa, Solano, and Sonoma counties, will meet at Napa on the 12th instant to consider the interests of their business in a general way, but especially to take some action for the procurement of the needed legislation. The revenue law of the State taxes wine as personal property, and as the grower must of necessity keep it on hand two or three years before it is ready for market, he is compelled to pay two or three taxes—or a tax each year. This operates to the discouragement of vintners. It is thought that it is but justice to this class of our producers, that the law should be so changed as to impose a tax on sales only. This relief ought certainly to be granted by the coming September.

THE UNIVERSAL LANGUAGE.—The London *Times* calculates that in fifty years more, every civilized nation will speak the English language.

LAURA D. FAIR has sought solace in prison by dramatizing Owen Meredith's poem, "Lucille."

AGRICULTURAL NOTES.

CALIFORNIA.

SUTTER COUNTY COTTON.—The Sutter *Banner*, published at Yuba City, says: "William Mason, on Butte Slough in this county, has cultivated the cotton plant with great success for the past two seasons."

AMADOR GRAPES.—The Amador *Ledger*, of November 4th, says: We were shown last Saturday, by S. H. Bartlett, who resides about five miles from this place, a single bunch of white grapes that weighed ten pounds when it was cut from the vine. Besides being a monster bunch, the grapes were large and of a delicious flavor.

A MAMMOTH WINE ESTABLISHMENT.—A few days since, says the Placerville *Republican* of the 2d inst., we visited the mammoth wine cellars and manufactory of Robert Chalmers, at Coloma. Chalmers' wine is widely celebrated, but we had no idea of the huge proportions of his institution, and his facilities for manufacturing, before our visit. The works are three stories in height, covering an immense area of ground, the exact size we will not undertake to give, but suffice it to say that one hour's time is hardly sufficient in which to thoroughly inspect the whole establishment, to say nothing about "sampling" the various kinds and grades of wine. Mr. Chalmers has 85 acres of ground in vines, a large percentage of which is devoted to choice foreign varieties; altogether there are over 100,000 vines. In addition to what he raises, Mr. C. buys immense quantities of grapes from neighboring vineyards. He will make this season, of wine, 40,000 gallons; and of brandy, for the making of which he has the most approved appliances, 15,000. Want of casks is quite a drawback, but as 35,000 gallons have already been turned out, it is quite probable that casks can be provided in season to insure the production of the remaining 5,000 gallons. The factory has a capacity of upwards of 60,000 gallons.

Some ten or twelve different kinds of wine are produced, besides apple, peach and grape brandy. Connected with the establishment are two large stone vaults filled with tierces, all of which are now full, holding from four to five hundred gallons each. One of these vaults is filled with wines of last year's vintage, there being some 10,000 gallons.

In addition to his wine business, Mr. Chalmers sends immense quantities of fruit to market during the season, frequently sending from two to three tons per day. On the whole we think Mr. Chalmers may be set down as one of the men who do not do things by halves.

HOPS IN SANTA BARBARA COUNTY.—The Ventura *Signal* says that W. S. Chaffee of that place is raising hops successfully. His vines were planted three years ago. He supplies them wholesale and retail. The brewery at Ventura is using hops grown by him. He also puts them up in pound packages for family use.

ENGLISH WALNUTS IN TULARE.—Col. P. Bouquette of Visalia has raised some English walnuts the equal to which the *Times* thinks has never been produced anywhere. That paper says they were fully one-third larger than those imported, with which they were compared, and full of plump, rich kernel, of excellent flavor, decidedly superior to the foreign nut or those brought from Los Angeles. This is the first year of bearing of the tree from which they were taken, the product of which has astonished everyone conversant with the capacity of such trees. The walnut tree is a hardy one in that valley, very prolific, in no wise affected by frost and will produce as many dollars to the acre as any crop that can be cultivated. Our valley might be made, with a very small outlay of labor to supply the whole State with these nuts, and it even might produce a quantity sufficient for export if the growing of the walnut was entered into as a business by some of our enterprising orchardists.

TOBACCO IN SANTA CRUZ COUNTY.—Tobacco is successfully grown in the vicinity of Gilroy, by J. D. Culp & Co. At first the crop was of coarse quality, and fit only to be used for sheep washing, to which purpose it was mainly devoted. Continued experiments however, demonstrated that the finest quality can be produced. Out of the small beginning made, some three years since, a large manufactory has grown and smoking tobacco from Gilroy is found upon the shelves of most of the tobaccoists on the coast.

One of the Culp brothers once informed the writer that experiments made with the Havana seed had proved immensely satis-

factory, the tobacco grown being fully equal to the imported article. After the first year the quality deteriorates, however, necessitating the planting of the imported seed each successive season.

SUGAR BEETS IN HUMBOLDT COUNTY.—The Eureka *Signal* thinks the beet sugar business might be made profitable in Humboldt county. Beets grow there, particularly in the Eel River valley—says the Eureka *Signal*, as they grow in no other section. For size and fineness of grain and texture, they cannot be excelled. We have talked with Eel River farmers who have given this matter careful thought, and who believe the attempt would soon lead to a substantial and permanent business, and should like to see an association of them try it, at least.

CASTOR BEANS.—Chas. Hedges, says the Marysville *Appeal*, has about forty Chinamen engaged in picking and sacking castor beans. His crop on the Yuba bottom, opposite the city, is one of the largest in this part of the country, and if he secures it before it rains, it will yield him a handsome profit.

The flouring mills in Marysville are very busy now, running up to their full capacity.

The Sacramento *Union* says that no less than 1,500 sacks of peanuts, from the upper Sacramento, were shipped to the bay by steamer on Friday, of last week, and a like quantity was sent down on Saturday.

PRODUCT OF A SIX-ACRE VINEYARD.—Clement Detten, who lives on the east side of Stockton, has made \$3,000 dollars worth of wine this season from a vineyard of six acres. Five hundred dollars an acre is a pretty good yield.

SUGAR BEETS AT CASTROVILLE.—About a mile from Castroville, on the Cooper ranch, Dr. E. J. Martin seeded in sugar beets nine acres of land, from which have already been taken four hundred tons, used for feeding hogs, and it is estimated that there yet remain upon the same productive parcel of land about fifty tons—an average of fifty tons of beets to the acre.

EARLY PLOWING.—J. H. A. Mills, on the extensive farm of Daniel Murphy, at the Fifteen Mile House takes time by the forelock in the way of early plowing. According to the Gilroy *Advocate*, he had, some three or four weeks since, about 200 acres plowed and has ten gangs at work every day. He is a thorough farmer, and advocates deep plowing and thorough harrowing.

CORN AS TREES.—A sample of oat and corn stalks sent over to San Francisco by the Alameda railroad some time since, measured respectively nearly seven and nine feet. The conductor booked them as trees.

OLIVE PRODUCTION.—The Old Mission in San Diego, one of the oldest in the State, has been rented to a party who is busily engaged in picking the fruit and making oil for table use. With improved methods of manufacture the oil is of superior flavor, and the same amount of olives yields more largely, thus doubling profiting the lessee. From Santa Barbara to San Diego the olive flourishes. The tree attains great longevity, is a prolific bearer, and in proper hands may be made to yield large profits to the owners.—*Los Angeles News*.

THE ANAHEIM WINE PRODUCT, according to the *Gazette* has been much reduced this year by the ravages of the grasshoppers. The yield has been only 330,000 gallons, against 611,000 last season. The number of acres in the settlement bearing wine—producing vines is about 700.

OREGON.

OREGON AND THE CENSUS.—The Census reports show the following Agricultural products for Oregon for the year 1869:—

| | Bushels. | Value. |
|------------------|-----------|-------------|
| Wheat | 1,750,000 | \$1,500,000 |
| Rye | 5,200 | 5,200 |
| Oats | 500,000 | 270,000 |
| Corn | 200,000 | 200,000 |
| Barley | 200,000 | 200,000 |
| Potatoes | 500,000 | 300,000 |
| Hay (tons) | 75,000 | 637,50 |

The returns show that there were in the State in 1869, 48,800 horses, 1,560 mules and asses, 79,312 milch-cows, 101,960 sheep, 112,700 swine, and 140,500 young cattle. Total value of domestic animals, 7,946,255. Cheese was produced the same year to the amount of 105,279 pounds and butter 1,000,159 pounds. The production of the State has been prodigiously stimulated since 1869 by the building of railroads and accessions to the population.

A NEW PEAR.—The Willamette *Farmer* says that R. C. Geer has a seedling pear that took the premium over all others at the Fair. It resembles the Winter Nellis in flavor, and ripens about the first of Oc-

tober, at a time when no other pear is in its prime. The *Farmer* expects to see the time when Geer's Seedling will be one of the favorite pears of the country.

WHEAT.—The receipts of wheat at Albany so far this season, exceed 400,000 bushels; of flax seed, 20,000 bushels.

The Marion county assessment, is \$3,975, 199, an increase of \$438,864 over last year. The whole tax in the county this year, including the four mill tax for building a Court House, is seventeen and a half mills.

The Roseburg *Plainedealer* boasts that the railroad will make Douglas the richest county in the State. That paper boasts of a field of corn in that county, in which the ears are from ten to twelve inches in length, with twenty-four rows of corn to the ear.

Benton county has organized a club of "coyote exterminators." Each member who kills a coyote gets five dollars.

SEEDING for fall wheat is fast progressing in Lincoln county. A much greater breadth of land will be sown this fall than last.

LARGE TREE.—The Mountaineer says that on the Chehalis river, about seventy miles from Olympia, there is standing, in a fine cedar grove, a cedar tree twenty-one feet in diameter six feet above the ground, and estimated at two hundred and fifty feet high to the first limbs.

MONTANA.

SUGAR MAPLE IN MONTANA.—A species of sugar maple is said to have been found in the cañons of Montana and it has been ascertained that its sap is as strongly saccharine as the sap of the Eastern sugar maple.

WHEAT IN MONTANA.—Major Wheeler United States Marshall for Montana Territory states that the wheat crop in that territory averages 40 bushels to the acre this year. Gallatin Valley spring wheat has averaged 35 bushels per acre for the last six years, and winter wheat 65 bushels per acre.

IDAHO.

FRUIT TREES FOR IDAHO.—The Idaho *Statesman* says that thousands of dollars were sent East and West during the month of September, from Boise City and valley for fruit trees. They have taken that sober, second thought which a sensible man will sometimes take, and concluded to stay here. Many who felt unsettled and were ready to pull up and go at any time, are now anchored for life, and intend that their vine and fig-tree shall grow right here. It generally takes the experience of half a life time to teach us that which is best to do.

COLORADO.

SPECIMEN COLORADO FARMS.—The Gilmore ranch is about 30 miles from Pueblo, on the south side of the Arkansas river. On it is the only sorghum field in Colorado. Two and three-fourths acres of cane produced 315 gallons of syrup. The potato patch, on this farm, this fall, yielded 10 lbs to the hill. One-fourth of an acre produced 108 bushels. A 20-acre corn-field gave 40 bushels to the acre. The wheat field gave 35 bushels to the acre. A watermelon weighed 34 lbs, and a pie-melon 48 lbs.

So much for an Arkansas Valley farm; now for a ranch high up on the foot hills. The farm of Stephen H. Green, two miles below Valmont consists of 170 acres. He raises uniform and splendid crops of wheat, corn, other grains and vegetables. Besides this he has 6,000 trees, forming beautiful groves of box-elder, cottonwood, and 325 black walnut trees, some of which are now 10 to 12 ft. high. From a few young grape vines 150 lbs of grapes were produced this season.

RIPENING OF CROPS IN COLORADO.—Wilson Perrin, of Denver, observes that Hartford and Delaware grapes were ripe and gone by the 18th of September. Concord began to color August 20th. Catawbas began to color September 1st, and were all of five weeks in ripening. Isabellas were superior in flavor. Killing frost came October 9th.

MISCELLANEOUS.

The Missouri corn crop this year will be the heaviest ever raised in that State. The season throughout has been favorable, and the farmers will have very large crops of everything they raise. It is predicted that corn and potatoes will be very low.

The Hartford *Times* says that the Connecticut tobacco crop is so large that the farmers are actually bothered to find room to stow it in; and this fact has in many places delayed the cutting.

THE GRAIN CROP OF EUROPE.—Reports indicate small crops in the wheat-growing regions of Europe, embracing Hungary,

Danubian Principalities, Southern Russia and Austria. The only Danubian provinces likely to yield a full crop is Roumania. For the above reasons it is believed that the demand upon this country by Europe for wheat and grain will be unusually heavy this winter.

In England the wheat harvest is not up to the average yield of the last three or four years, though the fine weather for the week preceding Sept 2d has done much to compensate for the injury previously sustained. There are complaints of disease among the potatoes. The reports favor the conclusion that there will be a good demand for American breadstuffs in the foreign markets.

The Kingston (Canada) *News* says the wool season just closed has been one of the best for some years past, both in the additional amount of the clip, the greater proportion of superior quality produced, and the improved condition in which it has been brought into market. A cargo of 25,000 pounds shipped to Oswego by a buyer averaged an advance price of 6 cents per pound over that of last year.

The Visalia *Delta* of the 2d says: Very few people abroad are aware of the fact that the grove of big trees out in the mountains east of here dwarf those of Calaveras, and that Mount Whitney is the highest mountain in California, if not in the United States. A gentleman recently returned from an exploring tour in that direction relates some marvelous stories as to the wonders of that locality.

Crop Reports for the United States.

The official report of the Department of Agriculture for the month of October, places the wheat crop of the country at about seven per cent. less than last year, when there was a considerable deficiency in the total product. The heaviest yield, comparatively, is reported in New Jersey, in which the estimate is of twenty-five per cent. more than last year, which, however, was a year of light crops. The returns made from Pennsylvania, New York, Massachusetts, New Hampshire, Michigan and Kansas show an increased yield, as compared with last year, of from four to twenty-three per cent.

Michigan, which is the most important of the States as a wheat-growing district is estimated to have harvested a crop ten per cent. better than last year, when a fair average was realized, and probably, has this season had the best average crop in the country. It is more than offset, however, by the partial failures in the great wheat-producing States Minnesota and Wisconsin. In the former, the yield is reported one-fourth less than last year, and in some of the counties the average harvest was but eight bushels to the acre. The Wisconsin crop is ten per cent. less than last season. In Indiana and Iowa, both important wheat-growing States, and the former of which last year realized no more than a three-fourths crop, one-tenth less was harvested this fall; and in the Southern States generally, where for the last three years there has been considerable increase in the wheat-culture, the falling off is reported at from a tenth to one-fourth. In Tennessee, one of the best, if not the best wheat State in the south, the yield is forty per cent. below that of the last crop.

The prospects for the corn crop which, taking into consideration the export of pork and lard dependent upon it, is perhaps more important to the country at large than that of wheat, are less favorable than last year; and it is now so late in the season that reliable estimates can be given. The terrible drought that has prevailed from the Alleghenies to the Plains, has checked the growth, increasing the liability to loss by early frosts, and has so damaged the crop that in any event the yield will be to a considerable extent diminished, but the average will probably be raised to nearly the ordinary crop by the heavy yield in favored localities. Illinois, the most important as a corn-growing State, will suffer a considerable falling off in the crop, though in quality it is expected the yield will be very good. The belt of country along the great lakes has suffered to some extent from early frosts, which will reduce the crop, and in Kentucky the prospects are unfavorable. But in Missouri, Iowa, Wisconsin, Ohio, Kansas, Nebraska, and Minnesota, the crop, it is estimated, will be nearly or quite ten per cent. above the average.

The reports as to the condition of the cotton crop are very unfavorable, only about three-fourths of the average yield per acre being anticipated. The highest estimate is of a crop of about three million bales, or nearly five hundred thousand bales less than last season.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING OCT. 24.

ROLLER SKATE.—John L. Boone, San Francisco, Cal., assignor to himself and Milton A. Wheaton, same place. Antedated October 3, 1871.

WHEELBARROW.—William McKibbin, San Francisco, Cal.

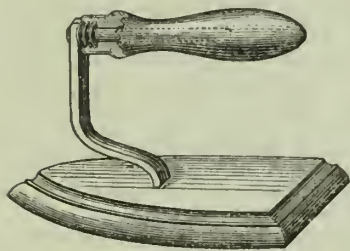
LOCOMOTIVE.—William D. Arnett, Denver City, Col. Ter.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible by telegraph or otherwise at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Sad-iron Handle.

The cut accompanying this description is a representation of Tait's Sad-iron Handle which consists of a simple and convenient arrangement by which the handle can be removed from the iron when it is being heated, and again be replaced with equal facility when required for use.

It consists of a standard rising from the body of the iron and bent at right angles so as to extend backwards. A shoulder is formed on this horizontal part, having a screw. It would appear as if the single



standard would not be firm, as if two were used; but such is not the case, for the single one is as solid as need be and answers all requirements. The handle is of wood or other non-conducting material and is hollow. A nut or socket is fitted in its outer end, and with a few turns screws on to the part before described when it is necessary to use the iron.

The whole is a convenient iron handle, which can be readily removed and replaced without trouble. The invention was patented through the SCIENTIFIC PRESS Agency, by Alexander Tait of Sonora, Tuolumne county, Cal., and further information may be gained by addressing him at that place.

ENGLISH PATENT LAW.—The movement already mentioned in the PRESS for improved patent laws in England contemplates the following provisions:—

That inventors have a right to the sole use of their inventions, which it is the duty of legislators to harmonize with the interests of the State.

That patents should no longer be granted to mere "first importers," but should be confined to actual inventors.

That the term of a patent should be twenty-one years—now fourteen—without provision of extension.

That the official fees should be reduced from one hundred and seventy-five to ten pounds for the entire term, which is sufficient to defray the expenses of an efficient patent system.

That the French mode of granting patents—without official investigation of the merits of the application—should be adopted.

That in patent suits the rights of patentees should be determined by a competent court of equity, dispensing with jurors and "expert" witnesses.

WALNUTS BY RAIL.—Large amounts of Chili walnuts are shipped to this city and sent hence across the continent by rail. About 50 tons have been thus disposed of. A stop will be put to this kind of traffic when the young trees now coming into bearing in this State shall begin to yield their annual crops.

Automatic Steam Vacuum Pump.

Our illustration represents one of the Patent Automatic Steam Vacuum Pumps manufactured by the Aetna Iron works of this city. The construction of this pump is simple and the expensive features of the complicated and heavy low-pressure pumping engine are wanting. It consists of a single hollow cylinder containing no piston or other mechanism. Attached to the top of this cylinder is a steam pipe and a small chamber, and to the bottom of said cylinder, valve chambers are affixed, containing plain "flap" valves, opening or closing ports, through which the water is received and discharged in the same manner as in a common pump. These valves by means of light, simple connections, serve to operate all the other moving parts of the apparatus,

lies upon the top of the air, and this stratum of air acts in all respects like a piston to separate the steam from the water, and yet transmits the pressure, and does it, it will be observed, without friction, waste, or condensation.

As soon as the water is forced out of the cylinder, the steam supply is shut off. The steam (remaining in and filling the cylinder) is condensed, a vacuum again created, and the operation repeated; it only requiring a steam pressure of one pound to raise water a distance of thirty feet. The amount of water to be raised in this way depends only upon the size of the apparatus.

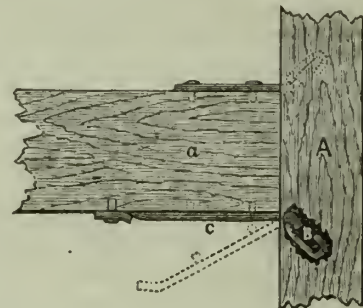
Grape Culture in Los Angeles County, California.

Good grape-land here costs from \$10 to

ward. The whole cost of an acre of grapes—including price of land, cuttings, water, and cultivation, up to the time they commence bearing—may be estimated not to exceed \$46. The yearly expense after this, without counting the cost of gathering and sending to market, would be only about \$10 per acre. The manufacturers of wine in Los Angeles are willing to buy all the grapes they can get. The price ranges from 65 cents to \$1 per 100 pounds. This would give the price of an acre of grapes as ranging from \$78 to \$120, and upward. When made into wine, they would be worth \$300 or \$400. Taking the lowest price paid for the grapes, the profit per acre, after paying for cultivation, gathering, and hauling to market, can not be less than \$50. It is seldom that a piece of land producing nothing but grapes is sold, and, therefore, we have but little in the way of actual sales from which to form an opinion relative to the price of an acre of vineyard in full bearing. But we can derive our conclusions from another source equally trustworthy. A hundred dollars will bring their owner, in the way of interest, from \$12 to \$18 annually. From this we may conclude that an acre of grapes that brings its owner a profit of \$50 yearly, is worth \$300—a good return for the \$46 originally invested.—Overland Monthly.

Barlow's Bedstead Fastening.

As often happens with inventions, some little improvement of an existing idea like the one we are about to describe, works a much greater revolution in its special branch than was at first perhaps anticipated. For many years we have been afflicted with inefficient fastenings for bedsteads that are continually getting out of order and break-

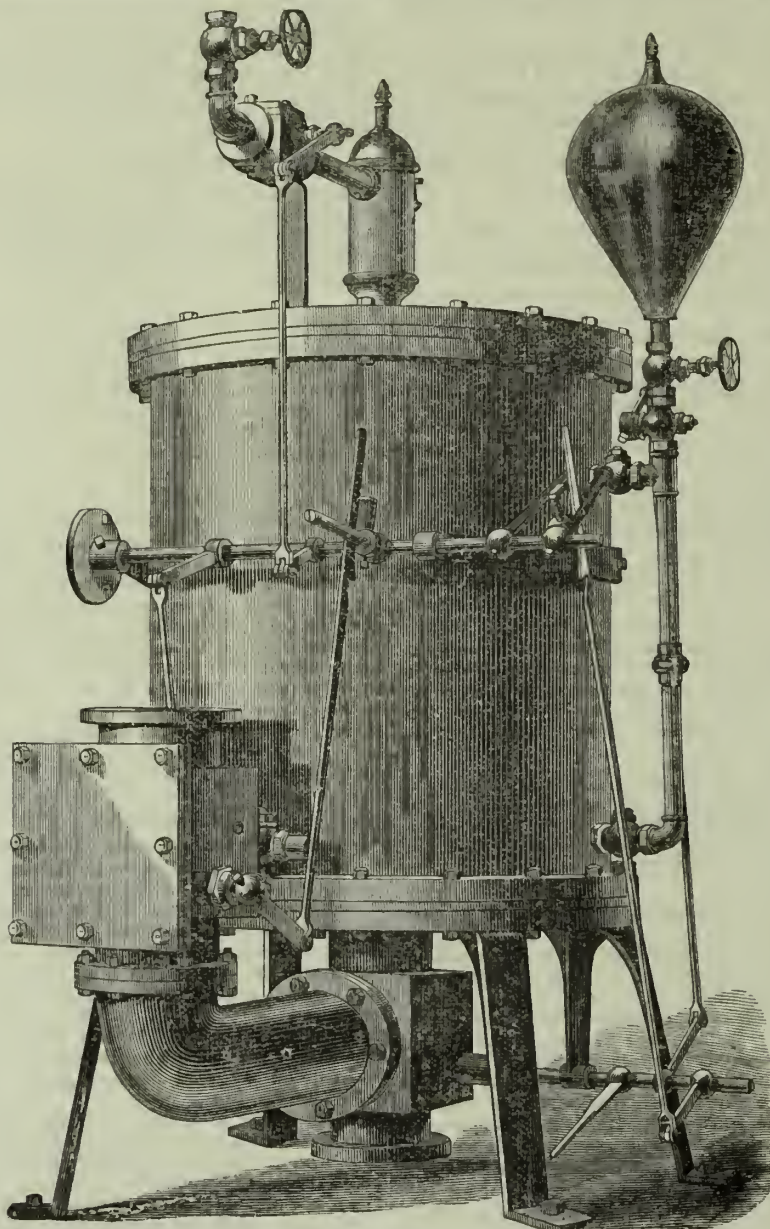


ing down, with the additional disadvantage of being a fastening in a more permanent sense than the inventor intended, for you can never take a bed apart without some trouble—and a hammer. The improvement under consideration evidently does away with the aforesaid objections.

It has two plates, each of which is formed into a hook, the bottom one represented in the accompanying cut as C, and the upper one evident enough without a mark, it being on the opposite side of the rail. The latter is secured upon the upper edge of the rail, A, so that the hooked end shall extend beyond the end of the rail, the hook turning upwards. The upright part, A, to which the rail is to be secured, is provided with a recess so that the upper hook will catch into it. The other hooked plate is then secured in a similar recess which curves downward at the lower corner of the rail, and the plate forced up against the under edge of the rail and there secured, thus bending the rail between two plates. The lower hook is represented in two positions—open by the dotted lines. When closed, the hooked end is caught in the inside pin, B, and the lugs keep it from moving laterally, while a button keeps it from opening, and holds it firmly in position.

The inventor makes the parts of wrought iron, by machinery, and fits them on any bedstead. This improvement was patented through the SCIENTIFIC PRESS Agency by E. T. Barlow, of this city, and further information concerning it may be had by addressing him, corner Sixteenth and Harrison streets.

FAT CATTLE, driven the past season from the arid plains of this State to the rich grasses of Nevada, are beginning to return by rail to supply the shambles of this city.



PATENT AUTOMATIC STEAM VACUUM PUMP.

thus making the pump completely automatic. The receiving, discharging and steam pipes are connected to the cylinder in substantially the same manner as in ordinary pumps.

After setting the pump into position the cylinder is filled with steam and the same instantaneously condensed, thereby forming a vacuum in the cylinder; after this the operation is as follows:—Water is forced by the atmosphere through the lower receiving pipe, filling the cylinder from below, while at the same time a small quantity of air is admitted through a small opening above the water; immediately the vacuum is supplied, steam is admitted in a thin sheet on the top of the air, compressing the same, and forcing the air and water downward, the latter escaping through the discharge pipe.

There is no condensation of steam by this operation, air being one of the best non-conductors of heat known, and, as it is about twice as heavy as steam, the latter

\$25 per acre. When the latter price is given, the land has facilities for irrigation. At present, many think irrigation unnecessary in new vineyards; but vines accustomed to it can not safely dispense with it. In planting a vineyard, the land is plowed at least eighteen inches deep, and a hole is made with a crowbar, into which the cutting is dropped. The Mission grape is giving place to foreign varieties, cuttings of which have to be purchased, at prices varying from \$5 to \$10 per thousand. They are planted in February or March, and, when irrigation is considered necessary, the water is turned on both before and after planting. The vines are about six feet apart, or at the rate of a thousand to the acre. Plowing the first year costs about \$5 per acre; after that, a light surface-plowing, to keep down the weeds, is all that is required, and costs about \$1.50 per acre. Water for irrigating costs about \$5 yearly. Pruning, per acre, costs about \$1 the first year, \$2 the second, and \$3 a year when the vines are in full bearing. This work is done chiefly by Indians or Mexicans. At the end of three years, the yield may be estimated at five pounds of grapes to the vine; at four years, eight pounds; and at five years, twelve pounds or up-

USEFUL INFORMATION.

Why do not Animals Talk?

They would, if they had anything to say. There must be a very nice correspondence between the musical construction of the mouth, the vocal apparatus at the top of the windpipe, and the brain in order to produce articulate language. None of the carnivorous animals, such as dogs, lions, tigers, cats, etc., have snug, tight-fitting lips. On the contrary, they have no circular muscles, as in man and the grass-eating animals. Their lips are pendulous, as may be noticed, sagging by their own weight, exposing some of their under-jaw teeth. Even if they had thoughts, they could not be symbolized by articulate sounds, because labials could not be produced. In the social animals the brain, in proportion to their bodies, is exceedingly small, and therefore supposed to be inadequate to mental operations beyond the manifestations of their instincts. A few birds possess an imitative faculty of copying and reproducing the voices of others, but the range of their articulation is confined to lingual sounds exclusively, because their horny beaks admit of no flexibility for varying a tone. Man alone is a talking being.

Still all animals, and even insects, have a method of making their wishes and intentions known to each other. How they do it is still a secret for which no open sesame has been discovered. Bees, wasps, spiders, beetles, and common house-flies comprehend the meaning of their kindred associates. So do horses, oxen, cows, and all the wild animals of the forest. Wolves concert attacks requiring not only a strong force, but stratagem; and to complete any proposed expedition of a formidable character implies exact acquaintance with all minutiae of an expedition. How is a plan explained without words? That is a grave question.—*Ec.*

Facts About Ropes.

"Alston's Treatise on Seamanship" gives the following facts and rules for computing the strength of ropes:

To find what size rope you require, when roven as a tackle, to lift a given weight, divide the weight to be raised by the number of parts at the movable block, to obtain the strain on a single part; add one third of this for the increased strain brought by friction, and reeve the rope of corresponding strength.

One-sixth of 40 tons is 6½ tons, which, with one-third added, is 9 tons nearly, for which you should reeve a six-inch or six and a half inch rope.

Conversely:—To find what weight a given rope will lift when rove as a tackle: Multiply the weight that the rope is capable of suspending by the number of parts at the movable block, and subtract one-fourth of this for resistance.

Thus: 8.9 tons, the strength of the rope, multiplied by 6, the number of parts at the movable block, minus 13.3 or one-fourth, gives 40.1 tons as the weight required.

Wire rope is more than twice the strength of hemp rope of the same circumference; splicing a rope is supposed to weaken it one-eighth.

The strongest description of hemp rope is untarred, white, three-stranded rope; and the next in the scale of strength is the common three-strand, hawser laid rope, tarred.

A BONE CRUSHER FOR DOMESTIC USE.—At the last fair of the Smithfield club, Islington, the house of Hancock & Co. exhibited a new and exceedingly useful invention, namely, a machine for crushing and grinding bones by hand, so that a cook could break, crush, or grind bones to any desired size. As a quarter of a pound of bone contains as much gelatin as a pound of meat, it stands to reason that a machine that enables us to recover the whole of this, and, at the same time, reduce the bones to a condition ready for conversion into superphosphate, must prove decidedly successful. The crusher is made of steel and cast iron, and can be screwed to a block or solid table; and it costs in London one pound twelve shillings.

Such a machine would be very valuable on every farm to crush and grind bones for the above-named purposes, and for feeding to poultry. If some one of our California inventors would set themselves to work, and produce a machine that would accomplish what is above set forth, they would have an invention which ought, and one we think would, pay.

Painless Killing.

In regard to the freedom from pain incident to death produced by carbonic acid gas when administered in large quantities, it may be interesting to note that, in large foundries, where iron is melted in cupolas, there is always a large quantity of carbonic oxide passed into the stack. This volume of gas in some instances cannot escape freely by the flues, and blows out of the charging door. Sometimes workmen in the act of charging the cupola, are deluged by a flood of the gas, and in all cases fall instantly insensible, and would die if not dragged away from the poisonous atmosphere. When restored to consciousness they cannot remember any sensation of any kind—certainly none of pain attending their insensibility. In one instance a workman engaged in repairing a furnace in this city, remained in it while an adjacent one was put into blast. The superabundant gas passed partially into the place where he was working, and so quickly did he succumb under its influence as to cut short something he was saying to those outside, so as to show that between the time of uttering one word and another to all appearance he was dead. It was with the utmost difficulty that he was restored, and he had no recollection of what had happened. It has been a matter of considerable interest whether this result is brought about by the carbonic acid or by the carbonic oxide gas. Some who have breathed pure carbonic oxide gas have noted this effect, while men plunged suddenly into carbonic acid gas, as in wells, have as suddenly become insensible.—*Philadelphia Ledger.*

Adulteration of Lard.

Some time ago, the stock of prepared lard being exhausted, a quantity was procured from a respectable pork-dealer. It was beautifully white; so much so, that the writer was led to question his ability to produce anything equal to it. The first trial was in preparing ointment of nitrate of mercury. The color, when the mercurial solution was added, was the reverse of citrine, indeed decidedly saturnine, developing in a short time to a full slate color. Surprised at this unprecedented result, the usual precautions having been taken as to temperature, etc., the lard was suspected, and on examination, was found to contain a large proportion of lime. Some time after, being in conversation with a lard-renderer, a hint was dropped as to the relation of lime to color, when the information was confidentially imparted that a common practice among lard-dealers was to mix from two to five per cent. of milk of lime with the melted lard. A saponaceous compound is formed, which is not only pearly white, but will allow of the stirring in, during cooling, of 25 per cent. of water. So much for appearances.—*Canadian Pharmaceutical Journal.*

To Transfer Ornaments to Carriages, Wagons, Etc.

This beautiful art is now practiced by many painters, who are either in a hurry with their work, or for economy's sake.

Pictures expressly designed for carriages are now sold, and the amateur painter is enabled thereby to finish a job of carriage painting in fine style.

These pictures may be stuck on, and the dampened paper carefully removed, leaving the picture intact upon the panel, requiring no touching with the pencil. The proper way to put on decalcomanie pictures is to varnish the picture carefully with the prepared varnish (which can be obtained with the pictures,) with an ornamenting pencil, being sure not to get the varnish on the white paper. In a few minutes, the picture will be ready to lay on the panel, and the paper can be removed by wetting it, as already described; and when thoroughly dry, it should be varnished like an oil painting. Be particular to purchase none of those transfer pictures, except those covered with gold leaf on the back, for they will show plainly on any colored surface, while the plain pictures are used only on white or light grounds.—*Painters' Manual.*

THE NEWSPAPER OF TO-DAY.—One man in a hundred reads a book; ninety-nine in a hundred read a newspaper. Nearly a century ago, when the American press, which is now a spreading oak, was in its green twig, Thomas Jefferson said he would rather live in a country with newspapers and without a government, than in a country with a government but without newspapers. The press, instead of being the fourth, is the first estate of the realm.

GOOD HEALTH.

Chewing Gum a Bad Habit.

In most of the Eastern States the habit of chewing gum has become quite general, especially among school girls. We are not aware that it has been very generally introduced into California, and we trust it never may be. A gentleman lately while passing along the streets of a western city counted in 15 minutes no less than 70 ladies who were "chewing" what he supposed to be gum.

Dr. T. F. Hicks, in a late number of the *Medical Independent* talks as follows upon the bad effects of this habit:

Of course it will not be pretended that this habit is either as injurious or as nasty as that of chewing tobacco, yet it is not all together innocent.

When food is taken, saliva is secreted to aid in masticating it. When other substances are chewed, saliva is, at first, secreted as for food, but the vital instincts soon recognizing the nature of the substance, excrete a fluid similar to saliva for the defence of the tissues. This fluid (thrown out against tobacco, gum, etc.) is really an excretion. The bile occasioned by taking poisonous medicines has, by careful experiment and analysis, been found to be quite a different substance from that secreted by the liver in its healthy action. So the fluid which the salivary glands produce during protracted chewing of that which is not good food, is quite different from healthy saliva. The waste, however, is probably just as if it were healthy saliva. Those who habitually chew gum unduly exercise the salivary glands, thus wasting vital force and injuring the glands, occasioning in them either ultimate debility, or undue development in size. There is also danger of permanent depreciation and poisoning of the salivary glands.

CHILDREN'S HEADS.—It is astonishing how many mother's neglect the daily practice of washing their children's heads. It is equally astonishing how few really good mothers appreciate the benefits arising from a morning bath for the head. It is just as essential to wash the head as the face—more so in fact. The head should be washed before the face, rubbing it lively with the fingers, this restores to activity all the latent vital forces, secures a perfect circulation, brightens the ideas, and gives a healthy tone to the growing hair.

A head that is washed in cold water every morning is never troubled with dandruff, or diseases of the scalp—the hair grows soft and abundantly, and headaches are seldom heard of. Children living in the country especially, and playing in the dust and dirt all day, should have the benefits of this practice regularly.

WATER AND HEALTH.—It has been ascertained in Great Britain that the death-rate among men and animals is very sensibly affected by the quality of the water they drink, whether hard or soft. The hard is much more favorable to health. Thus, those who live over the lime of the coal formation, with the shales, and marls, and magnesian limestones of the sandstone formation, where the waters are hard, surpass the average of the country in height and weight. The tallest men of England are over the limestones of Yorkshire. The finest breeds of horses and cattle originate in the hard-water tracts. On the other hand, the diminutive Welch and Highland sheep, and the Highland pony, are found in the soft-water regions, among the gneiss and slate.

SLEEPLESSNESS AND INDIGESTION.—"How should sleeplessness in a very young babe be treated? Also, what will cure indigestion and acidity of the stomach?"

Cure the indigestion, and the sleeplessness will disappear. To do this, feed the baby less frequently, and do not allow it to take anything whatever into its stomach except milk, and that only at certain stated times, not less than three hours apart. If the acidity does not soon disappear, extend the time to four hours. Be sure and be regular in the times of feeding. It is very important.—*Herald of Health.*

Things to Remember.

Edward Everett became overheated in testifying in a court-room, went to Faneuil Hall, which was cold, sat in a draught of air until his turn came to speak: "But my hands and feet were ice, my lungs on fire. In this condition I had to spend three hours in the court-room." He died in less than a week from thus checking the perspiration. It was enough to kill any man.

Professor Mitchell, while in a state of perspiration in yellow fever, the certain sign of recovery, left his bed, went into another room, became chilled in a moment and died the same night.

If, while perspiring, or warmer than usual from exercise, or in a heated room, there is a sudden exposure, to chill cold air or a raw, damp atmosphere, or a draught, whether at an open window or door, or street corner, the inevitable result is a violent and instantaneous closing of the pores of the skin, by which waste and impure matter, which was making its way out of the system, is compelled to seek an exit through some weaker part. To illustrate: A lady was about getting into a small boat to cross the Delaware, but wishing first to get an orange, she ran to the bank of the river, and on her return to the boat found herself much heated, for it was summer; but there was a little wind on the water, and her clothes soon felt cold, which produced a cold that settled on her lungs, and within the year she died of consumption.

A Boston ship-owner, while on the deck of one of his own vessels, thought he would lend a hand to some emergency, and pulled off his coat, worked with a will, until he perspired freely, when he sat down to rest awhile, enjoying the delicious breeze from the sea. On attempting to rise he found himself unable and was so stiff in his joints that he had to be carried home and put to bed, which he did not leave until the end of two months, when he was barely able to hobble down to the wharf on crutches.

Multitudes of women lose health every year, in one or more ways, by busying themselves in a warm kitchen until weary, and then throwing themselves on a bed or sofa, without covering, and perhaps changing the dress for a common one, as soon as they enter the house after a walk or shopping. The rule should be invariably to go at once, into a warm room, and keep on all the clothing for at least five or ten minutes, until the forehead is perfectly dry. In all weathers if you have to walk or ride on any occasion, do the riding first.—*Hall.*

REMARKS UPON MEDICAL RECEIPTS.—Emergencies often occur in every family when the services of a physician cannot be procured promptly, and something should be done while "waiting for the doctor." Many of the "Medical Receipts" which we give from time to time, may answer the valuable purpose of relieving suffering humanity until medical attendance arrives. Slight cases of sickness may often be relieved by simple remedies, if used in time, without calling in a physician; but judgment and discretion must be used in giving even "simple remedies."

CIDER FOR A COLD.—Common sweet cider boiled down to one-half, makes a most excellent syrup for coughs and colds for children—is pleasant to the taste, and will keep for over a year in a cool cellar. In recovering from an illness, the system has a craving for some pleasant acid drink. This is found in cider which is placed on the fire as soon as made, and allowed to boil, then cooled, put in casks, and kept in a cool cellar.

AS THE BABYLONIANS had no physicians with whom to consult in case of sickness, they adopted a novel plan to obtain relief under such circumstances. They had the infirm brought into the Forum, and those who passed by were asked their opinion as to the nature of the disease. They demanded of each one if he ever had the same distemper, if he knew any one who had it, if so, how he was cured?—*Family Herald.*

GAS WORKS FOR WHOOPING-COUGH.—The *Indianapolis News* of a late date says: For the past two or three weeks an average per day of forty or fifty persons having the whooping-cough visit the purifying room of the gas-work. It is claimed that a cure is effected by the person coming five or six times and staying ten or fifteen minutes each time. Relief is felt usually within a day.

FROST-BITTEN LIMBS should be immediately bathed in cold water, and rubbed until heat is restored. Avoid warming numbed hands and feet at the fire.



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SUBSCRIPTIONS payable in advance.—For one year \$4; six months, \$2.50; three months, \$1.25. Clubs of ten names or more \$3 each per annum. \$5, in advance, will pay for 1½ year. Remittances by registered letters or P. O. orders at our risk.

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Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper, inserted at special rates.

SAN FRANCISCO:

Saturday, Nov. 11, 1871.

Our Weekly Crop.

Encouraged by the degree of confidence manifested in our undertaking, by the public generally, and especially by the Words of Cheer which are coming to us through correspondents from every direction, we have this week planted in a conspicuous place, upon our ranch, a fine specimen of The Century Plant, as emblematic of the permanence and long life of the Pacific Rural Press, which by the Aid of the Farmers, we propose shall more than attain its hundred years of age.]

After looking over our record of Scientific and Mechanical Progress, we find some Encouraging Facts for Farmers, in studying the record of the rainfall for the past 20 years, and become interested in some encouraging Notes of Travel in Santa Clara County.

Our Horticultural Department, this week, contains some interesting information about Tropical Fruits and their adaptation to our California soil and climate. Following this will be found an interesting collection of Farm Miscellany. After passing this we stop a moment to look over some Recent California Patents, conspicuous among which is noticed an improved Sad Iron, and Barlow's Bedstead Fastening. We have also, in this connection, an Automatic Steam Vacuum Pump, which the experts pronounce a very superior machine. We next look over our usual digest of Useful Information, and hints about Good Health.

Passing again to the consideration of farm products, our attention is called to the large amount of California Mustard Seed which is suffered to go to waste; to the importance and beauty of our California Woods, and to an experiment in the Culture of Cotton near Sacramento. In continuing our enquiries in this direction, we pay a flying visit to our Up-Coast Farmers, learn some interesting facts about the encouraging manner in which the Rural Press is received at the East, and take a hasty look at The Siskiyou County Fair.

Just here our attention is called to a wonderful Explosion in the Sun, which was lately witnessed by one of our American astronomers, and which exhibited in a most striking manner, the extraordinary physical disturbances which sometimes take place upon the surface of that great central luminary.

After considering such terrible displays of Nature in her grandest and most magnificent forms, we endeavor to restore our usual mental quiet by a visit to the Home Circle, and indulging in some brief reminiscences of old time scenes and relics of years ago. Having thus come down once more to sublunary things, we venture upon another short trip to the Tulare Lands, where The Water Question is considered from an engineering point of view. The reclamation and cultivation of these lands is just now exciting much public interest; so much so that we have concluded to call the attention of The Next Legislature to their importance, the members of which will, please answer to their names while the clerk calls the roll.

California Mustard Seed.

Of the many resources of wealth offered to the farmer and grower, in California, the minor products that are almost wholly neglected, should not be forgotten. We propose to give from time to time some valuable and condensed facts relative to this class of native productions, which must, in due time, become a source of profit.

Every person who has traveled over California knows that a vast portion of the unsettled valleys and basins is overgrown with wild mustard. In Los Angeles county, especially, the richest soil and finest stretches of upland tracts of that county are literally overgrown with this native plant, in its largest and most fruitful luxuriance. In Alameda and Pajaro valleys it is a constant source of annoyance to the wheat growers.

Gathering the seed has so far been a limited business and mostly for local use. Within the past five years the oil was found to be of a superior quality, and Chinamen now thresh and sell the seed, to a considerable extent, to the oil mills in this city, receiving for the same about three cents per pound.

It is credibly asserted that this oil is better than olive oil for the same purposes—having a sweeter taste and less liable to become rancid. We would suggest to persons who are out of employment, and have no regular trade, to go to Los Angeles county and gather the mustard seed, and prepare the same for use; even if it brings but a small profit—thousands of acres of mustard are growing there, the seed of which is totally wasted.

Our Natural Woods.

Californians have a right, and good reason to be proud of, the elegant furniture made from the natural woods of the Pacific Coast. Eastern visitors admire it more than we do, and are anxious to purchase it. The laurel, particularly, is a favorite with our Eastern friends. The Oregon pine, sugar pine, Spanish and white cedar, laurel, and even the redwood is now worked up into the most elegant library and cabinet furniture. At the State Prison some of the most elaborate workmanship in the way of card tables, parlor tables, writing desks, and dressing cases are made from these home woods.

The demand for articles of this manufacture is increasing every year. It will be remembered that Secretary Seward purchased and forwarded to his home in the East, sufficient laurel to finish off his library in magnificent style.

Several public places in the city are elaborately decorated with laurel panels and ornaments, and it is also being used to ornament the palatial homes and offices of our wealthy citizens.

The greater the demand the less expensive it will be. The laurel is very hard to work and therefore its price is high. The Spanish cedar dresses beautifully. The mountain mahogany, the hardest of all woods, is capable of the highest polish, and is one of the handsomest woods in use. This is employed chiefly for canes, and they have challenged the admiration of the pedestrian circles for years. We hope our treasures in the wood line will be productive of a constant and handsome revenue to the State.

FRUIT RECEIPTS.—The receipts of fruit in this city, for the week ending Saturday last, were as follows: Apples, 9,000 boxes; pears, 4,800; grapes, 13,000 (native); grapes, 5,600 (foreign); plums, 200; quinces, 800; strawberries, 5,500 pounds; fresh figs, 1,500. The receipts of dried fruits were: Peaches, 11 tons; pears, 3; pitted plums, 1½; unpitted plums, 3; grapes, 2; raisins, 2; figs, 1½; almonds (California), 2; walnuts, 2; peanuts, 4.

Cotton Near Sacramento.

We have been shown some stalks of cotton grown by Mr. Neely on the red clay land about six miles from Sacramento, which were well studded with well developed and open balls of cotton, apparently of good, long and fine staple. Mr. Neely says he has been a grower of cotton in the Southern States and he is satisfied from his experience here that with facilities for irrigation, when necessary, cotton can be made a good paying crop, even on the lands and in the locality designated.

The variety which did so well, was of the Teupnu Upland.

Mr. Neely planted some Egyptian seed at the same time and cultivated it in the same manner, but this kind matured only a few balls and these were comparatively small and the staple short and inferior.

At one time the idea prevailed quite generally that the dry climate of California was unfavorable to the production of cotton, for the reason that the ball would not open well except in a damp climate, like that in the southern States, where the nights are very nearly as warm as the days. Actual experiments by competent growers are exploding the theory and establishing the fact that our climate and soil in many portions of the State are very favorable to the perfect and profitable production of this important staple.

We are glad to hear of these experiments in the cultivation of new agriculture products as they show our ability to maintain a diversified agriculture—the only one that can be made profitable in the State.

OUR HORTICULTURAL DEPARTMENT.—We propose henceforth to make this department more a specialty than it has heretofore been made in the Press. Several gentlemen, well acquainted with this department of agricultural industry, have promised to contribute regularly for it, and by their aid we hope to make it both valuable and interesting. Mr. Hooper contributes an interesting paper for this number on Tropical Trees.

DRILLING IN WHEAT.—“J. G.” of Woodbridge, asks for information with regard to drilling in wheat, the best drills to use, etc. We will endeavor to prepare an article on the subject for next week. For the best kind of drill to be used we would refer him to Baker & Hamilton, of this city and Sacramento. Their advertisement will be found in another column.

FAIR OF THE SANTA CRUZ FARMERS' CLUB. A report of the first exhibition of the Santa Cruz Farmers' Club, together with the address of Dr. C. L. Anderson, was received just as we were going to press, and too late for insertion or even special notice this week.

RAMIE PLANTS.—“W.” of San José, will find in our advertising columns the address of parties who will furnish cuttings of the Ramie plant and a free circular of information.

DESTRUCTION OF THE ARCTIC FLEET.—We have news the past week of the almost total annihilation of the Arctic whaling fleet. Over thirty vessels have been crushed and destroyed or so hemmed in by the ice as to compel their abandonment, involving a loss of two millions of dollars, the most of which was insured. We appear to have truly fallen upon an era of calamities.

“THE WEST” is the title of a new sixteen-page monthly, the first number of which has just been issued by Carmany & Co. It is to be especially devoted to the interests of the Pacific Slope. The number before us is well filled with matter pertaining to the resources and material interests of this coast.

GRADING ON THE NORTHERN PACIFIC RAILROAD is now completed as far as the Red River.

Up-Coast Farmers.

Owing to the absence of rail communication, our agricultural friends in Mendocino and Humboldt counties are not so well known to the world as they deserve to be. Lying north of Cloverdale in Sonoma County, as far as Ukiah City, the country is broken with productive, well-watered and finely timbered valleys. The broken mountain ranges dividing valley from lowland, are replete with fertile patches, cool springs and fresh streamlets, as well as valuable timber. The few who have become permanent settlers through this rich farming section have had to depend upon the limited demand of the adjacent towns for the disposition of the bulk of their produce. The best grain in the State is produced in Mendocino county; vegetables of all kinds are the very best, while the dairy products, especially butter, are superior, owing to the excellent grazing and pure mountain water. A few large and well cultivated vineyards are also to be seen; one at Cloverdale, cultivated by a German of intelligence and education.

Cloverdale

is one of the prettiest towns in Russian Valley. The farmers are thrifty and prosperous, and the ranches are all in a state of rapid improvement. The grain of this section is remarkably good. Cloverdale is not unpopular as a country resort. Quite a number of our merchants take their families there during the summer to enjoy the pastoral luxuries of the valley.

Ukiah City,

although a much larger and more important town, is a miniature paradise, embosomed within the shades of a live-oak grove, situated in the heart of a fine agricultural district; they need only a railroad through these counties as far north as Eureka in Humboldt, and they would at once take a prominent importance in the interests of the State; one of the most productive sections would be in immediate commercial communication with San Francisco.

Already the road is in contemplation, and ere long we shall hear glad tidings from our coast farmers, of their labors and possessions. The completion of this road will be the opening of a rapid emigration to the now wild valleys and unsettled basins. The Mattole section in southern Humboldt will be particularly benefited as it is about equally removed from our market in all directions; the Mattole valley is exceedingly fertile with a very mild climate—it is also thickly settled with an excellent class of people. Lumber, one of the great resources of this section will be brought to market at lower rates and in increased quantities.

We hope our friends on the coast will send us every item of interest connected with the resources of that district.

Big Potato.

The following note explains itself:—

EDITORS PRESS:—With this I send you a San Gregorio “Spud,” weighing 4 pounds and 2 ounces, and measuring 20 inches by 13—a single, perfect and well proportioned potato. If any one can beat this we would like to hear from them. It was grown on the sandy bottom land of the San Gregorio Creek, San Mateo Co., by C. Laudenslager, Esq. G. W. T. C.

This was a noble specimen tuber, and for the purpose of letting our Eastern friends see what California can do in the way of raising them, we gave it to Mr. J. M. Hutchings to take with him on his lecturing trip East.

THE LABOR EXCHANGE.—During the last month 1,228 persons—viz: 682 men and 546 women—have been ordered from the Exchange, and employment has been furnished to 741 persons—viz: 440 men and 301 women.

The Rural Press East.

One of our lady subscribers is in the habit of sending a copy of the *RURAL PRESS* to her friends in Wisconsin, and from a letter recently received by her from one she had been in the habit of sending to, we make the following extract: "Out of all the San Francisco papers you send us, there is none we like so well as the *RURAL PRESS*. We have three neighbors who read it also, and even begin to look for it about the time we expect our California papers. I shall try to send a few names for regular subscription. I don't know where the editors find their selections—they are always new. We take several rural papers, but the *PRESS* contains less old extracts than *all the rest*. Don't fail to send it with the other papers."

If our friends would circulate the *PRESS* in this way, among Eastern people, no doubt they would be conferring a pleasure upon them, and greatly aid us in giving an increased circulation to the *PRESS*. We are gratified to hear that strangers in other States commend our work; it gives us an incentive to make the *PRESS* the competitor of rural news in every particular. We do not object to a mail-bag full of such compliments as the above.

The Siskiyou County Fair.

The sixth annual Fair of the Siskiyou County Agricultural Society, was prematurely announced by the telegraph as not a very successful exhibition. In giving that announcement we intimated that when the full particulars were received, we should probably hear a very different report, and we are happy to state that we were correct in the opinion. We have a letter before us from Mr. James Quinn, a member of the Finance Committee, in which we are informed that it was the most successful Fair of any yet held in the county. The receipts were \$3,042.15.

The Fair grounds were visited by large crowds every day, especially on Friday and Saturday, and everything on wheels that could be procured was pressed into service to convey people to and from the race track, to witness the races and display of horses, cattle and sheep.

At the Pavilion, in town, there was also a fine display of fruits, vegetables, farm products, preserves, pickles, jellies, canned fruits, ladies' fancy goods, fine paintings, photographs, etc. The ladies' Fair on Friday evening, was a decided success, the hall being densely crowded with visitors, and the Society realizing a good benefit from the admission fee and sale of articles donated. An appropriate address was delivered on Thursday evening by E. Steele, Esq.

We notice among the premium awards one to Quinn and McConnel on three Ayreshire calves. These gentlemen recently imported from New York a herd of thoroughbred Ayreshire, which are all doing finely and promise to turn out first-class animals.

Election of Officers.

A meeting of the Society was held at the Pavilion on Saturday evening, when the following officers were elected for the ensuing year:

President—Wm. McConuell, of Yreka, re-elected.

Vice-President—James Vance, Yreka.

Directors—James Quinn, Yreka; Sam Magoffey, Yreka; George Smith, Etna; David Horn, Fort Jones; W. J. Evans, Little Shasta; L. Swan, Yreka; Robt. Nixon, Yreka; Wm. Irvin, Yreka.

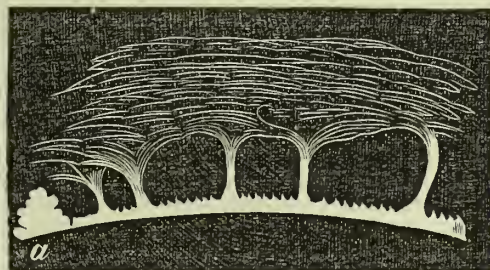
MAMMOTH FIG TREES.—It is said that there are two fig trees standing in a garden, on the banks of the Tuolumne river, near the town of La Grange, which measure $7\frac{1}{2}$ feet in circumference, and are about 40 feet high. These trees stand only eight feet apart, and mingle their redundant branches as in one tree. These twin trees are thirteen years old, and are of remarkable thrift and beauty.

A Remarkable Explosion in the Sun.

Prof. C. A. Young, of Dartmouth College, an astronomer of considerable note, who has been making some careful investigations with regard to the physical condition of the sun, recently witnessed an outburst of solar energy, most remarkable for its suddenness and violence, and one which shows us what *can* be done in the way of explosions when all the conditions are on a scale of grandeur commensurate with the magnitude and anomalous physical condition of our solar luminary.

The professor employs in his examination, an instrument lately introduced and known as the telespectroscope,—a combination of the two instruments, whose

Fig. I.

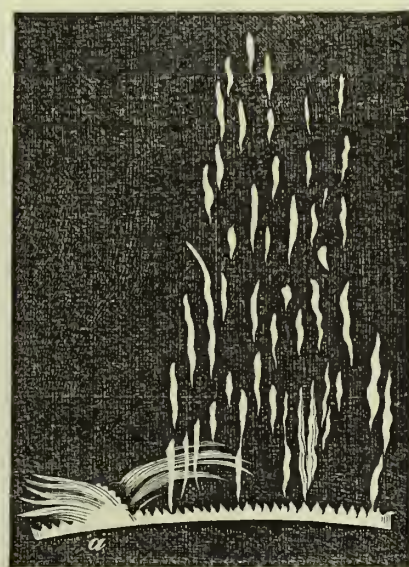


names are embodied in that word.

On the 6th of September last, about noon, while the professor was viewing the sun, he observed an enormous protuberance or hydrogen cloud, of the ordinary brightness of sun clouds, on the eastern limb of the sun, which was singular in nothing but its extraordinary size. This cloud remained without any noticeable change until about the same hour the next day, when a brilliant bright lump began to develop itself, shaped much like an ordinary summer thunder-head near the horizon, in the earth's atmosphere.

The appearance of this cloud and the "thunder-head" development is shown in Figure 1. The main cloud appears to

Fig. II.



much resemble a huge overhanging cloud in our tropical seas, as it is sometimes observed with two or more water spouts connecting it with the ocean. These appearances are not uncommon to the sun's upper atmosphere, and have sometimes been compared to a banyan grove. The length of this cloud, as was ascertained by measurement at the time, was about 100,000 miles, by some 54,000 miles in height. The heights of the filaments or columns, which appeared to support the cloud, were about 15,000 miles. Such was the appearance presented when the Professor was called away from his instrument about noon the 7th of September. What he witnessed on his return we give nearly in the Professor's own words, as communicated to the *Boston Journal of Chemistry*, from which paper we have also reproduced the accompanying illustrations:—

What was my surprise, then, on returning in less than half an hour, to find that in the mean time the whole thing

had been literally blown to shreds by some inconceivable up-rush from beneath. In place of the quiet cloud I had left, the air, if I may use the expression, was filled with flying *debris*—a mass of detached vertical fusiform filaments, each from 4,500 to 13,500 miles long by 900 to 1,400 miles wide, brighter and closer together where the pillars had formerly stood, and rapidly ascending. When I first looked, some of them had already reached a height of nearly 100,000 miles, and while I watched them they rose with a motion almost perceptible to the eye, until in ten minutes the uppermost were more than 200,000 miles above the solar surface! This was ascertained by careful measurement; the mean of three closely accordant determinations gave 211,050 miles as the extreme altitude attained, and I am particular in the statement because, so far as I know, chromospheric matter (*red-hydrogen* in this case) has never before been observed at an altitude exceeding 135,000 miles. The velocity of ascent also, 166 miles per second, is considerably greater than anything hitherto recorded. A general idea of its appearance when the filaments attained their greatest elevation may be obtained from Figure 2.

As the filaments rose they gradually faded away like a dissolving cloud, and in twenty minutes from my return, or at 1.15 p. m. only a few filmy wisps, with some brighter streamers low down near the chromosphere, remained to mark the place. But in the meanwhile the little "thunder head," before alluded to, had grown

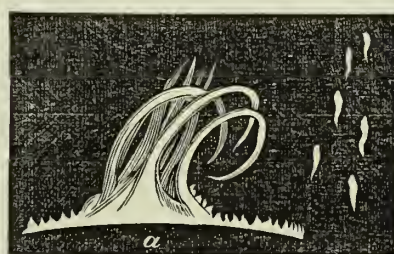
Fig. III.



and developed wonderfully, into a mass of rolling and ever changing flame, to speak according to appearances. First, it was crowded down, as it were, along the solar surface; later, it rose almost pyramidally 50,000 miles in height; then its summit was drawn out into long filaments and threads which were most curiously rolled backwards and downwards, like the volutes of an Ionic capital; and finally it faded away, and by 2.30 had vanished like the other. Figures 3 and 4 show it in its full development; the former having been sketched at 1.40, and the latter at 1.55.

The whole phenomenon suggested most forcibly the idea of an *explosion* under the great prominence, acting mainly upwards, but also in all directions outwards, and then after an interval followed by corresponding in-rush: and it seems far from impossible that the mysterious coronal

Fig. IV.



streamers, if they turn out to be truly solar, as now seems likely, may find their origin and explanation in such events.

The same afternoon a portion of the chromosphere on the opposite (western) limb of the sun was for several hours in a state of unusual brilliance and excitement, and showed in the spectrum more than 120 bright lines whose position was determined and catalogued—all that I had ever seen before, and some 15 or 20 besides.

Whether the fine Aurora Borealis which succeeded in the evening was really the earth's response to this magnificent outburst of the sun is perhaps uncertain, but the coincidence is at least suggestive, and may easily become something more if, as I somewhat confidently expect to learn, the Greenwich magnetic record indicates a disturbance precisely simultaneous with the solar explosion.

The paper of Prof. Young will be read with deep interest by every one, and we need offer no excuse for the space which

we have devoted to it. The *Journal of Chemistry* says of it:

It is certainly an important contribution to our knowledge of solar physics, and will add to the author's reputation as being one of the most vigilant and competent observers living. No statement could afford a clearer idea of the stupendous energies and intense activities prevailing on the sun than that of Prof. Young, and the phenomenon must have a near or remote bearing, not only upon our planet, but upon the whole family of bodies which are held in place by the sun's attraction.

The change in the spectrum after the "in-rush" of luminous matter which followed the explosion, is a most interesting and important point, inasmuch as it would seem to show that new elements or forms of matter were brought to the surface by the disturbance. Prof. Young observes that during the unusual brilliance and excitement of the solar surface, on the afternoon of the 7th of September, *fifteen or twenty new lines* were observed in the spectrum.

Explosions of this kind are probably not unfrequent, and it is singular that no one has yet been brought directly under telescopic observation. The thirty minutes absence of Prof. Young from his instrument happened to be a most important period of time, and no one can regret the circumstance more than himself. Our interest in solar spectroscopy increases every year, and we have reason to expect that the enlargement of the boundaries of knowledge in that direction will be rapid and wonderful.

MAGNIFICENT FRUIT.—We received this week from Dr. J. Strenzel, of Alhambra, near Martinez, Contra Costa county, a magnificent box of grapes of different varieties, which (and we are borne out in the assertion by Messrs. Howe & Hall, the commission merchants to whom the doctor's fruit is consigned daily,) is one of the finest lots that have come to San Francisco this season. Dr. J. says in the note accompanying his acceptable present:—"You have been crowing of late about Tulare, Butte county, and Sherman Island grapes, so I send you a few samples of Contra Costa growth, to show you what we can do nearer home." Among the different varieties sent were some splendid specimens of Flame Tokays, one of which measured four inches in circumference; some Muscat of Alexandria, one of which measured 4 and 5-16th inches by $3\frac{1}{4}$, and a number of bunches of very fine Sweet-water and Muscatel grapes. The doctor's orchard is a very extensive one, and he raises a great quantity of all varieties of grapes, which continue to come to the market, when those of most other localities in the State have long since ceased. In 1868 he made his last picking January 15th. Many thanks, Doctor! if you had seen the looks of pleasure beaming in the faces of our force from us to the "devil," we are sure it would have repaid you for your trouble in picking the grapes, for no man would take pains to raise such fine ones, but one who enjoys to add to the pleasures of his neighbors.

J. M. HUTCHINGS, the pioneer of Yosemite Valley and publisher of Hutchings's Magazine and "Scenes of Wonder and Curiosity in California," started East on Tuesday last to fill an engagement for the season in lecturing in the East, under the auspices of the Boston Lyceum Bureau. He will tell many wonderful and truthful things about California in an interesting and enthusiastic way. He is well versed on the beautiful and grand scenery of California.

BEQUEST TO THE DEAF AND DUMB ASYLUM.—R. W. Durham, of Chico, recently deceased, left property to the State Deaf and Dumb Asylum valued at about \$100,000.

HOPS.—W. H. Coe, of Santa Clara county, has stored over 15 tons of hops this season.

WOOL FOR TULARE.—Tulare county is shipping large quantities of wool to this market.



Measuring the Baby.

We measured the riotous baby
Against the cottage wall—
A lily grew at the threshold;
And the boy was just as tall!
A royal tiger lily,
With spots of purple and gold,
And a heart like a jewelled chalice,
The fragrant dew to hold.

Without, the blackbirds whistled
High up in the old root trees,
And to and fro at the windows
The red rose rocked her bees;
And the wee pink fists of the baby
Were never a moment still,
Snatching at the shine and shadow
That danced on the lattice sill!

His eyes were as wide as bluebells—
His mouth like a flower unblown—
Two little bare feet, like funny white mice,
Peeped out from his snowy gown;
And we thought with a thrill of rapture
That yet had a touch of pain,
When June rolls round with her roses,
We'll measure the boy again.

Ah me! in a darken chamber,
With the sunshine shut away,
Through tears that fell like a bitter rain,
We measure the boy to-day;
And the little bare feet that were dimpled
And sweet as a budding rose,
Lay side by side together,
In the hush of a long repose!

Up from the dainty pillow,
White as the risen dawn,
The fair little face lay smiling,
With Heaven's light o'er it drawn,
And the dear little hands like rose leaves
Dropped from a rose, lay still,
Never to snatch at the sunshine
That crept to the shrouded sill.

We measured the sleeping baby
With ribbons white as snow,
For the shining rosewood casket
That waited for him below;
And out of the darkened chamber
We went with a childless moan—
To the height of the sinless angels
Our little one had gone!

Old Relics, Keepsakes, Etc.

[Written for the Press.]

We love old relics! the mementoes of "old times," the keepsakes of the friends of "other days!" old-fashioned articles, brown with years, have a kind of sacredness about them that suggests the finest emotions. Some old article that has become an heirloom in the family, carries us back, perhaps to an old home on a farm, where the happiest hours of our childhood were spent. The time-honored home of New England is dear to the heart, brought often before memory's camera by some old piece of silver or furniture—perhaps a patchwork bedquilt.

Dear to the heart was the old home—its windows shaded in summer with the hopvine and interlacing morning glory; its clean-swept kitchen floor, and its pantry filled with a wealth of good things prepared by mother's skillful hand.

The large broad shelves, scoured to immaculate whiteness, loaded with large rows of pans of milk and rolls of yellow butter; the big loaves of coarse bread and beautifully browned loaves of gingerbread. Ah! hotel boarders and city epicures! You have tasted nothing so palatable as the pastry of your mother's make, in the days when you were young, at home.

The old mill sweep, that so often bent its tall head, almost to the mossy curb, and lent its aid in bringing up the dripping bucket to refresh the sun-burned haymakers at noontime, is often before us in our thoughts of the homestead; and the little narrow garden gate, with the latch so high the baby had to climb to reach it; the martin-house, and the old rope swing, all come before us so vividly! The days of that olden time have gone down to a final

sunset still radiant with the hues of happy hours, that some old relic so fondly brings to mind.

Keepsakes! perhaps old pictures of friends long ago grown aged, or who have laid down to the sleep that awakens in the light of eternity. Old daguerrotypes that have grown so dim and obscure you have to turn them in every conceivable position to catch a view of the sweet face that looks out, as it were, from dim shadows of years!

A package of letters! how old they look, yellowed, dusty, fingerworn and ragged! the ribbon that binds them was blue once—it is grey now! Little odd seals are sticking to them yet—and we read on one: "To Memory Dear." Looking at these letters, the years seem doubling over our ages.

All the old keepsakes are dear to the heart; that rusty old gun, the yellowed shawl, once so white; the quaint old portrait, and the old-fashioned looking-glass, and the andirons up in the garret; such volumes as they mutely speak! dear old relics—precious keepsakes, they take us back over the years that are gone and live over the joys and sorrows that make sacred the hours and histories of the past.

Housework.

People generally think that all women, young or old, whatever their taste or in whatever direction their talent lies, ought to like housework. If a young man has a taste for any particular vocation he is expected to follow it, and he is awarded great commendation for proficiency in that vocation, no matter how little he may know of anything else. If he takes naturally to journalism, it is not considered his duty to work with hoe or spade all his life. But custom and prejudice have marked out one vocation for a woman and that is housework, and unless she excels in this she receives wholesome denunciation.

Men are apt to sneer at women who are inefficient in household duties, but did man ever think that if his own sex were all to follow any onespecial business there might be some who would prove incompetent? Supposing agriculture should be laid down as the only God-allotted sphere for man, shouldn't we be likely to see as many slack farmers as we do now of housekeepers? We expect man to attain in excellence in one direction only, namely, one for which he has a particular taste. Is it not insulting, then, to require that all women who from time immemorial have had almost no advantages of education compared with men, and many of whom already excel in some departments of learning, should attain the very maximum of excellence in housewifery, for which some have no taste? Of course we do not deny that it is better to be a good housekeeper than a poor one, but surely no one ought to expect all women to like housekeeping equally well, any more than to expect all men to like farming, tailoring or any other pursuit equally as well.

It will be a great blessing when people learn that women have as noble aspirations as ever beat within the breast of any man. Every far-sighted person can see that there is as much difference in the tastes of women as in those of men, and he who knows it not, understands not human nature aright. *Christian Union.*

Fashionable Women.

Fashion kills more women than toil or sorrow. Obedience to fashion is a greater transgression of the laws of woman's nature, and a greater injury to her physical and mental constitution, than the hardships of poverty and neglect. The slave woman at her task will live and grow old, and see two or three generations of her mistresses pass away. The washerwoman, who has scarce a ray of hope to cheer her in her toils, will live to see her fashionable sisters all extinct. The kitchen-maid is hearty and strong, when her lady has to be nursed like a sick baby. It is a sad truth, that fashion-pampered women are almost worthless for all good ends of life; they have but little force of character, and still less power of moral will and quite as little moral energy. They live for no purpose in life—accomplish no great end. They are dolls in the hands of milliners and servants, to be dressed and fed in order. If they bear children, servants and nurses do all, save conceive and give them birth. And, when reared, what are they; what do

they ever amount to but weak scions of the old stock? Who ever heard of a fashionable woman's child exhibiting any virtue, any power of mind for which it became eminent? Read the biographies of our great and good men and women. No one of them had a fashionable mother. They nearly all sprang from women who had a little to do with fashion as with the changing clouds.

Putting Things Away.

"Do men think," asks an exchange, "how much time women spend in picking up and putting things away?"

"Putting things away" becomes a sort of mania with some neat housewives, and not only gives them a vast amount of trouble, but sours their temper, and is a source of annoyance to every member of the family.

The mania consists too often in waiting on every member of the family, when, in justice, they ought each one of them to wait on themselves. Let every member of the family have a place for coats, shawls, hats, boots, slippers, and be taught to put them in their places.

Let every child be taught, at the earliest possible time, to wash its own face, hands, teeth, and brush its own hair; subject, of course, to the approving "well done" of mother or sister.

Let mother herself remember to fold and put away her own things properly, never leaving them to be looked after in the morning.

Let husband and father remember that they can brush and fold away their Sunday clothes, and put them in their places, as easily and as well as the mother can do it.

Self-dependence and self-helpfulness is a magical wonder-worker in the family, and early instilled into the minds of husband, hired men and children, would go far to lighten the labor and care of over-worked wives and mothers.

Loving, cheerful helpfulness, which the sweet "thank you, mamma," from children, or kindly appreciation expressed by the rough, strong man, who will think to say "I know dear, you are tired," or, "the dinner is excellent; you are the best little wife in the world; try, now, to rest an hour before tea time, will quicken the pulses and send new life over the worn-out nerves of your over-worked wife or mother. Try it, children, try it, husband, and note the effect.

A Childless Home.

The home may be a palace, but its splendored halls will be cold and cheerless as the fore-court of a sepulchre, if they are not made the portals of heaven by the prattle, the merry laugh and innocent hilarity of children, through whom the Divine paternity bestows perennial youth, and hope, and earthly immortality upon parents here. Of all cheerless, unnatural places in the world, a childless home is the most uncomfortable. There is something oppressive in its vacancy. Its stillness is stifling. The heart faints and cries for what is not there. The home into which the Great Father has once placed one of His little ones, for however short a stay, is transformed by that visitation, and can never lose the charm of that mysterious coming, nor the light that streamed through the door of the noiseless departure. That door is open, and no hand can shut it; and just on the other side the unseen child engages in gambols, or is busied with tasks, which it needs but a little imagination, blended with faith, for a parent's heart to hear. No home can ever be the same again into which one immortal being rose into conscious life, and saw a heaven of love in a mother's eyes. Birth is a great sacrament. But the home that has had no such baptism is cold, dull and dreary at the best, with none of the poetry of life in it, no legends of angels trailing about it, and no star shining over it to indicate that it is favored of heaven.—*Golden Age.*

WOMEN IN SECLUSION.—The *Revolution* has discovered that women who live in seclusion with none but women for their associates, never realize the ideal of womanly nature. In the convent, says the *Revolution*, woman shrivels and bleaches out into a soft, selfish, simpering, prayer-making automaton.

A correspondent comes to the defense of women under the current notion that they are peculiarly addicted to gossip, alleging that in a country grocery store, among barrels of molasses and piles of salt fish, more gossip is talked by men in one evening than in all the houses in the town.

Young Folks' Column.

Taking Things Without Asking.

When I was a boy, I was playing out in the street one winter's day, catching rides on sleighs, and it was great fun. Boys would rather catch rides any day than go out regularly and properly to take a drive. As I was catching on to one sleigh and to another, sometimes having a nice time, and oft-times getting a cut from a big black whip, I at last fastened like a barnacle to the side of a countryman's cutter.

An old gentleman sat alone on the seat, and he looked at me rather benignantly, as I thought, and neither said anything to me, nor swung his old whip over me; so I ventured to climb upon the side of the cutter. Another benignant look from the countryman, but not a word. Emboldened by his supposed goodness, I ventured to tumble into the cutter and take a seat under the warm buffalo robe beside him, and then he spoke. The colloquy was as follows:

"Young man, do you like to ride?"
"Yes."
"It's a pretty nice cutter, isn't it?"
"Yes, sir, it is, and a nice horse drawing it."

"Did I ask you to get in?"
"No, sir."
"Well, then, why did you get in?"
"Well, sir, I—I thought you looked so good and kind, and that you would have no objection."

"And so, young man, because you thought I was good and kind, you took advantage of that kindness, and took a favor without asking for it?"

"Yes, sir."
"Is that ride worth having?"
"Yes, sir."

"Well, now, young man, I want to tell you two things. You should never take a mean advantage of the kindness of others; and what is worth having, is worth at least asking for. Now as you tumbled into this sleigh without asking me, I shall tumble you out into that snow-drift without asking you."

And out I went, like a shot off a shovel, and he didn't make much fuss about it either. I picked myself up in a slightly bewildered state, but I never forgot that lesson.

STORY ABOUT A FOX.—A. M. Nort tells the following: When a boy, he had a fox, which, I regret to say, bore the reputation of possessing far more brain than personal piety. This fox was kept in the yard, in a sort of raised den nicely sodded over, and was confined by a chain that allowed him quite a generous circumference. One evening in the fall, the farm wagon returning from the field with a load of corn passed near the den, and by chance dropped an ear where the fox could reach it. He was seen to spring out, seize the corn, and carry it quickly back to the den. What he wanted with it was a mystery, as corn formed no part of the gentleman's diet. The next morning, however, the mystery was solved, for the fox was observed out of his den, and considerably within the length of his chain, nibbling on some of the corn and scattering it about in full view of the poultry, after which he took the remainder back into the den and waited events. Sure enough the chickens came, and while eating, out sprang the fox, nabbed his man, and quietly took his breakfast in his back parlor.

Charade.

My first is often seen by all,
When night is here, with sable pall;
My second comes at early dawn,
And leaves us not till night comes on;
Then, if my first is bright and clear
My whole will to your sight appear.

PUZZLE.—A gentleman sent his servant with a present of nine ducks in a package to which he affixed the following direction: "To Alderman Gobble, with IX Ducks." The servant having more ingenuity than honesty, took out three of the ducks, and contrived so, that the direction corresponded with the number of ducks. As he neither erased any word or letter, nor made a new direction, how did he manage it?

FOR THE BOYS.—"Why did you not pocket some of those pears?" said one boy to another; "nobody was there to see you." "Yes, there was; I was there myself, and I don't ever intend to see myself doing a mean thing."

THERE are admirable examples which, when applied by the weak and faulty to their own case, are transformed into snares.

DOMESTIC ECONOMY.

Household Economy.

EDS. PRESS:—I always have a great many things to find fault with, too many perhaps; but the complaints I am about to set before you, concern everybody, and if everybody would combine to put down the impositions they relate to, they will easily be remedied, and for health and happiness, should be. Let me premise that I keep five scrap books; one poetical and miscellaneous, one cook book, one medical, one agricultural and one for comments, prints, etc.; that few—not speaking of my book for engravings, and the one for newspaper prints worth preserving. Now, when scissors in hand, I lie down to rest with a paper, and it furnishes me with nothing worth scissoring for either of these, no matter what exciting serial or political problem it may contain, I throw it aside with disgust; but I have a different complaint to make of your paper, and yet it is not one of the evils that I should like to see remedied. My complaint is that if I want to slip out a long receipt, that I think I could now easily refer to in one of my books, I can't cut it out because I invariably discover something valuable on the other side, that I can't destroy. I think I shall have to take two papers, one to file, the other to sacrifice to scrap books. All this introduces a scrip I send you, cut from some paper, which you can publish again if you see fit. It is about the narrowness of boot soles, and it is correct in its statements.

I have also seen articles on the injury which high heels do the foot and leg. A person with a moderately high instep cannot get a boot that will not be an unwearable torture, without buying a pair a size too large every other way; and then the heels are put on with nails which wear out the stocking and excoriate the heel, and which hammering down don't cure. I cut up old hats into soles, and until the nails come through them, am easy.

Why all this torture? Cannot shoemakers learn to make wearable shoes, such as they did years ago? But in vain do I entreat the best San Francisco artists in leather, to please make my shoes broad enough and large enough, and with high insteps.

Not a thing to walk out in, while boots lie all around. I sometimes sit and calculate which of the different tortures will be most endurable for the day—Oh! shoemakers, if ye have souls to feel, I pray you consider ours.

COMPLAINT 2D:—Let any housekeeper find an old yeast powder box obtained in years ago—one that she has put by, perhaps with seeds in it or other trifles, and endeavor to put upon it the cover of one of the present or two last years, and she will find it *can't be done*. In fact the boxes are a size smaller—Why?—To pay for stamps, I suppose; but the yeast powders are dear enough without that. They become quite an item in the month's expenditure. Can't this imposition be rectified? If not—WHY?

TAPIOCA is recommended as a cheaper and more nutritious article of food than even potatoes and rice, by no less a personage than the Prince of Travancore, the southernmost province of Hindostan. The cultivation of the manioc plant, from the root of which tapioca is made, as starch is from potatoes, is rapidly extending in the province. Its advantages are that it grows in almost any soil, requiring but little labor, and after the first month but little moisture. It is very productive, and is easily prepared for consumption. The Indian government have taken measures to test the merits of the plant; but as the food it yields is almost exclusively of the starchy or fat-producing character, and contributes little or nothing to the formation of muscle, it is difficult to see what benefit would be derived from increasing its use.

HARD AND SOFT WATER.—An attentive correspondent has just sent us, for this department, a very practical article in regard to softening water for domestic use, which we shall publish next week.

TO MAKE GRAVY THAT WILL KEEP SEVERAL DAYS.—Lay in a stew-pan or suitable vessel half a pound of lean, juicy, fresh meat of the poorest pieces or trimmings; over this put half a pound of pickled pork, or a little less bacon of the side meat. Cut up 2 medium-sized onions and a few sprigs of parsley. Pour into the vessel a tumblerful of boiling water (not more than this); cover the vessel, and let the meat stew, turning it once, until it is a rich brown color; then pour in boiling water enough to just cover it; let it simmer an hour; remove the meat; thicken the gravy slightly with a paste made of brown flour and water; let that simmer half an hour; add any essence of ham or good gravy that may be saved for such purposes. Put in an earthen vessel well covered, and exclude from the air. Warm it before serving; season with any catsup liked. For making all brown gravies, fry the meat first, and pour over hot broth, gravy or water; use the browned sugar or flour for coloring and thickening. Kidneys, livers, necks of poultry, the scraggy parts of the necks of animals, may be used for making the stock for gravy.

PENNYROYAL FOR FLEAS.—The oil of pennyroyal will drive these insects off; but a cheaper method, where the herb flourishes, is to throw your dogs and cats into a decoction of it once a week. Mow the herb, and scatter it in beds of pigs once a month. I have seen this done for many years in succession. Where the herb cannot be got, the oil may be procured. In this case, saturate strings with it, and tie them around the necks of dogs and cats; pour a little on the back and about the ears of hogs, which you can do while they are feeding, without touching them.

By repeating this application every 12 or 15 days, the fleas will flee from your quadrupeds, to their relief and improvement, and your relief and comfort in the house. Strings saturated with the oil of pennyroyal, and tied around the necks and tails of horses, will drive off lice; the strings should be saturated once a day.—*Scientific American*.

BOTTLING APPLES.—If you have a quantity of empty self-sealing bottles, and you wish to prepare a large quantity of apple sauce and to have it until spring, an excellent way is to bottle it. Prepare the sauce according to whatever rule you wish; then, when boiling-hot, pour into the bottles and put on the covers immediately. Apple sauces prepared now and bottled will have more flavor than that made in the spring of the year.

A SUBSTITUTE FOR COFFEE.—From chemical analysis it appears that the seed of the asparagus when dried, parched and ground makes a full flavored coffee, but little inferior to Mocha, containing in common with tea, and coffee, the principle called tannin. Dry the asparagus berries well, after being thoroughly ripened, then rub them on a sieve; thus the seeds are readily separated.—*Journal of Health*.

TAKING CARE OF BROOMS.—Have a screw with an eye or ring on its end; this can be screwed into the end of the handle of each new broom. It is handier to hang up by than a string, though the latter will do if always used. It is bad for a broom to leave it standing upon the brush. If not hung up, always set it away with the stick end down.

INDELIBLE INK.—By placing a piece of caustic in the end of a quill, and whittling the side to a point, any cloth, being first slightly damp with water, may be written on so indelibly that no art can remove the color.

PROTECTION FROM DAMP WALLS.—Boil one pound of powdered sulphur in two quarts of water for half an hour. Apply with a brush while still warm, and you will prevent the damp and unwholesome oozings from the brick walls of your workshops.

WATERY POTATOES.—If your potatoes are watery, put a piece of lime about as large as a hen's egg in the pot, and boil with them, and they will come out as mealy as you please.

If brooms are wet in boiling suds once a week, they become very tough, will not cut the carpet, last much longer, and always sweep like a new broom.

TO CLEAN LAMP-SHADES.—Lamp-shades may be cleansed with soap or pearlsh; these will not injure or discolor them.

FRIED SQUASH.—Slice thin, dip in egg, then in flour, and fry in butter. Excellent.

Domestic Receipts.

To remove egg stains from silver, rub with table salt.

CHAMPAGNE CIDER.—To 35 gallons of good cider put one gallon of strained honey, or eight pounds of good white sugar; stir them up well and set aside for a week. Clarify the cider with one quart of skimmed milk or six ounces of dissolved gelatine, and add five quarts of pure spirits. After two or three days bottle the clear cider, and it will become sparkling.

HOW TO DEODORIZE OIL.—You may deodorize any oil by shaking it with a weak solution of bleaching powder which has been previously acidulated with hydrochloric acid. This is best done in a large bottle, into which oil and lye are introduced, the bottle stopped and now and then shaken. After two or three days pour off the oil and wash it several times with water, when it will have lost its unpleasant odor.

PEACH-LEAF YEAST.—One of our Southern exchanges gives the following recipe: Take three handfuls of peach-leaves, and three medium sized potatoes; boil them in two quarts of water until the potatoes are done; then take out the leaves and throw them away; peel the potatoes, and rub them up with a pint of flour, adding sufficient cool water to make a paste. Then pour on the hot peach-leaf tea, and scald for about five minutes. If you add to this a little old yeast, it will be ready for use in three hours; if you add none, it will require to stand a day and a night before use. Leaves dried in the shade are as good as fresh ones. As this is stronger than hop-yeast, less should be used in bread-making.

WELCH RAREBIT.—Put into a frying-pan a quarter of a pound of cheese cut up into thin slices. Pour on it half a pint of sweet milk. Stir in an egg that was already beaten up, add a fourth of a teaspoonful of mustard, a little less red pepper, already ground, and a teaspoonful of nice butter. Stir this mixture all the time. Then add, lastly, a few crackers well broken up, and after thoroughly incorporating them into the mixture, turn it all into a heated dish and cover it.

Mechanical Hints.

CAST STEEL that has been burnt or spoiled by overheating can be partially restored by heating it over and quenching in water four or five times, each of less extent than the first overheating and decreasing; lastly, hammering the steel till nearly cold, to give the greatest condensation before hardening. Some prefer the steel thus recovered for cutting-tools, and the treatment really produces a remarkable change, as a fragment of the same bar in the spoiled state will be extremely coarse, and another of the restoration as extremely fine.

CLEANING WINDOW PANES.—Housewives sometimes are very much surprised at their inability to remove the smoky and stained appearance from their window panes. Glass is often changed by a very short exposure to the weather. Sunshine and rain alone, will effect a most marked change in certain (soft) kinds of glass. When a little soda will not remove the stains, the only way to remedy the trouble is to buy new glass.

CLEANING POLISHED BRASS.—The first requisite is to remove all grease. This may be done with a solution of concentrated lye, and fine pumice or rotten stone. A weak solution of muriatic acid and clean scouring dust will then brighten it, after which it may be oiled, with olive or cocoa nut oil. Vinegar and common salt may be used instead of the acid. Weak vegetable acids are preferable on fine work, and vegetable oils better than animal fats.

ANOTHER METHOD.—Take eight parts water, and one part muriatic acid; mix them, and put in common water lime, until the mixture is thicker than water. Shake up well before using. Pour some on a rag, and put on the brass. Let it stay a minute or two and then rub. It will clean the dirtiest brass more quickly and better than anything else, so says a correspondent of the *Scientific American*.

IMITATION WALNUT is made by washing butternut-wood with lime-water and then varnishing. Lime-water will also stain cherry-wood to a good imitation of mahogany.

REFINED OIL FOR MECHANISM can be prepared by putting zinc and lead shavings, in equal parts, into good Florence olive oil and placing it in a cool place till the oil becomes colorless.

LIFE THOUGHTS.

BORROWED garments seldom fit well.

HASTE often trips up its own heels.

A FOOL generally loses his estate before he finds his folly.

A MAN that hoards his riches, and enjoys them not, is like an ass that carries gold and eats thistles.

TOWERS are measured by their shadows and great men by their calumniators.

TRUE courage and love are the syllables of faith.

THE chains of habit are generally too small to be felt till they are too strong to be broken.

THERE is an efficacy in calmness of which we are unaware. The element of serenity is one which we peculiarly need.

IF good people would but make goodness agreeable, and smile instead of frowning, in their virtue, how many would they win to the good cause.

THINKERS are as scarce as gold; but he whose thoughts embraces all his objects, pursues it unweariedly, and fearless of the consequences, is a diamond of enormous size.

EVERY desire bears its death in every gratification. Curiosity languishes under stimulants, and novelties cease to excite surprise until at length we cannot even wonder at a miracle.

WHAT a world of gossip would be prevented if it was only remembered that a person who tells you of the faults of others intends to tell others of your faults.

OBSCURITY leaves a man free, but a famous man is a slave to his fame. Incense is bought dear. Uneasy lies the head that wears a crown, although the crown may be of laurels.

The Influence of Example.

Men's lives are pages of history. Those who read are stimulated to good deeds thereby, or taught to avoid the mistakes such lives record. There cannot be too much said, or written, to encourage men of wealth to devote their leisure and money toward developing the beautiful in Nature, recovering and regenerating waste places, and affording men with less means and opportunities for the study of rural art. The influence of an example of good taste in the adornment of a single place in a neighborhood or town, reaches far into the future and molds more than most men think, the external features of that neighborhood or town, and affects more ultimately the lives of those whom it influences. If one man plants a tree his neighbor wants one. If one housewife has a flower parterre, another is not insensible to the enthusiasm with which the first exhibits and praises her floral pets. If one man sees his neighbor clearing out an old swamp, a ravine, or a rough place of any sort, and converting its rude angularities into symmetrical lines of beauty, he ever after looks upon the rough places of his own domain with the possibilities of what it may become in his mind's eye, and realizes, sooner or later, the ideal beauty which the realizations of his neighbors have established.

BE A MAN.—Foolish spending is the father of poverty. Do not be ashamed of work nor hard work. Work for the salary or wages you can get, work for half price rather than be idle. Be your own master, and do not let society swallow up your individuality—hat, coat and boots. Do not eat up or wear out all that you earn. Compel your selfish body to spare something for profits saved. Be stingy to your own appetite, be merciful to other's necessities. Help others and ask no help for yourself. See that you are proud. Be too proud to be lazy; too proud to give up without conquering every difficulty; too proud to be in company that you cannot keep up with in expenses; too proud to be stingy.

THE study of the magnet is one of unfailing interest to grown people as well as to children, and it is a matter of surprise that so little attention is given to so profitable a subject. We can find nothing that teaches so forcibly of Christ and his influence upon the soul—nothing that could more thoroughly convince a skeptic of his ignorance and folly.

If half the pains were taken by some people to perform the labor allotted them that are taken by them to avoid it, we should hear much less said about the troubles of life, and see much more actually completed.

THE WATER QUESTION.

By A. B. BOWERS, CIVIL ENGINEER.

Irrigation, Swamp Land Reclamation, Etc.

The exclusion of water from lands that are flooded; the furnishing of water where the supply is deficient; the interests of internal navigation; and the water supply of towns, are matters of greater moment to the State, prospectively, if not at present, than any other now claiming the attention of this people. They are of almost equal importance, and the interests of neither, should be sacrificed to the others. Private interests may all lie in one direction. Public interests cover the whole ground, and should be better guarded at the next session of the Legislature.

Want of time, and insufficient data, preclude a full discussion of this question, at present, and we shall attempt nothing further now, than a brief and somewhat discursive notice of its more salient points.

Swamp Land Reclamation.

Those who have discussed the question of California swamp and tide land reclamation, have, heretofore, so far as their writings have fallen under our observation confined themselves almost entirely to the single problem of excluding water. Now, as these lands are, for the most part, even more valueless without water than with its present superabundance, it is obvious that any scheme for their reclamation, which makes no provision for irrigation, must be worse than useless. In their present unreclaimed condition, nearly all these lands are, for a portion of the year, of considerable value, for pasturage; and some portions yield large quantities of inferior hay. Shut off the water, and these lands, in most instances, suffer from drouth very soon after the rains have ceased to fall; and the fine light vegetable mould, of which the soil, in many places, is largely composed, drifts on the wind, like snow. Vegetation dries up, and the parched soil becomes almost, if not entirely useless for the remainder of the dry season, even when the uplands produce an abundant harvest, on account of their superior capacity for the retention of moisture.

In the latter part of June last, we examined with a spade, a piece of unreclaimed tule, over which a steamboat could usually float four months in the year. At the depth of a foot and a half from the surface, it was nearly as dry as powder, while the grass, even then was dry enough to burn. This land would remain valueless, of course, for any purpose whatever, until the subsidence of the coming overflow, next April or May.

Irrigation.

Provide the proper irrigation for swamp land, or upland, and you change the whole face of nature. The drifting clouds of dust disappear. Crop follows crop in quick succession; three, four, five, sometimes even seven per annum, each more abundant than the solitary one that cannot always be grown without it; while the sun-baked soil, and withered grass of our pastures, give place to moisture and a perpetual green.

In some portions of Italy, where the amount of rain during the growing season, is greater than the total annual rainfall in California, something like four hundred dollars per acre have been expended for irrigation with highly remunerative results; the grass lands being made thereby, to produce from five to seven crops per annum, yielding from twenty to as high as seventy tons of grass per acre, and averaging about twenty-four; while the rental of these lands runs from twenty-five to as high as one hundred and ten dollars per acre per annum; a rental which could profitably be paid for such crops, even here, as fifty dollars per acre per annum, has already been paid for irrigable land in this State.

When irrigation is considered essential, and where such stupendous results follow its application to well watered lands, of a character well adapted to the retention of moisture, it is difficult to overrate its value, impossible to doubt its necessity on the porous soils of our swamp and overflowed lands, lying as they mostly do, in broad, open plains, unprotected by woodland or mountain, and exposed to the hot winds from the parched uplands, which sweep down like tongues of fire, lapping up every bit of moisture, scorching and blasting every green thing.

Hydraulic Engineering.

The reclamation of these lands, involves, therefore, the construction of levees, flood-gates, sluice-ways, dams, canals for irrigation, locks, feeders, ditches, flood-gates, etc., all of which, if unskillfully handled,

are among the most troublesome questions of hydraulic engineering—the most difficult branch, and, with the possible exception of some rude attempts at architecture, the most ancient, in some of its forms, of all engineering works. With a record running back more than forty centuries, and with traditions coming down from pre-historic times, it has accumulated a vast amount of dear-bought experience, and, in the lapse of ages, has developed a science that now shrinks from few undertakings, however stupendous, for which the necessary funds can be procured to carry them on.

Hydraulic Engineers.

To the skillful hydraulic engineer, the reclamation of these lands offers no serious problem, save that of expense. Unfortunately hydraulic engineers are scarce. For the last twenty years railroad construction has almost entirely superseded the construction of canals, and only a few of the old first-class hydraulic engineers have been able to find work. These are fast passing away. One or two of the most experienced are now in this State, one of whom, Wm. H. Bryan, has for some years past, made a specialty of irrigation, and doubtless possesses more information on this subject than any one else in the State, while few men anywhere, have had anything like his experience in handling water. Through his writings, mostly anonymous, and the experiments they have called forth in different parts of the State, our people have gradually been educated into an appreciation of its importance, and one after another are taking up schemes, which he has constantly recommended, since first presenting them, several years ago.

To the Uninitiated,

the building of dams, levees, etc., seems a very simple affair, and unfamiliar with the numerous expedients, and constant change of plan, necessitated by continually varying circumstances and conditions, and unwilling to pay for skilled plans or supervision, they everywhere tread over and over again, the same beaten track, never once looking at the record, and therefore ignorant of the lessons to be gathered from the experience of their predecessors, grope their way as best they can, only to continually reduplicate the story of unsuccessful effort and disheartening failure; and this too in utter disregard of the advice of

Theoretical Men.

as they sneeringly term those who understand the things wherof they, themselves, are ignorant. The work of reclamation is intrusted to incompetent hands, and when the floods come, broken levees, loss of unstable dams, frightful inundation, devastation and death, often repeated, force them at last into the recognition of their error; and when the engineer is finally put in charge of the work, as in most cases, he must be, at last, it frequently costs three as much for repairs, as the whole would have cost, had it been placed in his hands, at first, while the loss from inundation would have reclaimed the land several times over.

"The Best System"

of reclaiming overflowed and tide lands," is that required by the exigencies of each particular case, which varies of course, with varying conditions. The simplest of all is that adapted to the lands near the mouth of the Sacramento and San Joaquin rivers, lying below the level of ordinary high tide; and consists simply of embankments of sufficient height and strength to withstand the highest tides of the wet season, with sufficient flood-gates to drain off the water as the tides go down. In the course of a few months, the land becomes dry enough, and firm enough for cultivation except where it is too low to be drained by the fall of the tides; in which case, the better way is, to wait for the water to pass off by evaporation. Thenceforth, irrigation will always be necessary except in the wet season, and perhaps at times, even then. This is furnished in abundance by simply opening the flood-gates so as to let in the tide. The salt water being heavier than the fresh, rolls along the bottoms of the channels, and only the river water flows through the flood-gates and over the land.

Where High Water Barely Covers the Surface,

but little skill may be thought necessary for the construction of levees, sluiceways, flood-gates, or dams, except in very soft ground. This may sometimes be true. Instances frequently occur, however, even under apparently the most favorable circumstances, to test to the utmost, the ability of the engineer. To specify all these, and explain the procedure proper for each particular case, would require a treatise on hydraulic engineering of several hundred

pages, while to specify them in part would but set pit-falls for the unwary, by leading them to suppose that no further difficulty lay in the way.

Dimensions of Levees, etc.

No constant figures can be given for the dimensions of levees, flood-gates, sluiceways, canals, or dams. They must conform to the requirements of each particular case, no two of which are precisely the same. Those suitable and economical in one instance, might be useless in another less than half a mile away; or, if adequate to the requirements of the case, might cost much more than another plan equally as good. The size of flood-gates depends, of course, upon the amount of water they are required to discharge; their plan, upon the varying conditions under which they are used. The size of levees, and dams, vary with the depth of water, nature of the foundation, and the weight and character of the materials of which they are composed; and again, with the danger of abrasion from exposure to winds, waves, currents, tides, heat, cold, etc. The varying details of their construction under all these circumstances, would fill a large volume. The details of catchment drains, so constructed as to serve for canals of irrigation, with their feeders, sluiceways, culverts, dams, etc., would fill another. The discussion of reservoirs, to which reference will soon be made, and of their locations, foundations, wasteways, gates, and details of construction, suitable and economical, in the great variety of circumstances and conditions under which they will be required, would make another.

All these Details

from first to last, are determined by tedious mathematical computations, based upon careful surveys, and the actual conditions of each particular case, and dams, costing more than \$100,000, may be lost, through the improper laying of a single stone. No one who has mastered even the alphabet of hydraulic engineering, would expect to see these matters exhausted in less than half a dozen volumes.

Those who purpose taking charge of this class of works are recommended to several years study of standard works, for *nowhere* has the old adage, "a little learning is a dangerous thing," been more expensively illustrated than in amateur attempts at hydraulic engineering.

Tyros Often Settle Without Hesitation,

questions which the experienced engineer decides only after a careful and thorough examination; and by so doing, they bring discredit upon the profession, through failures which should never have occurred; while on the other hand they are often unable to decide at all, in cases that would occasion an experienced engineer scarcely a moment's thought. The enunciation of a few simple axioms, illustrated by diagrams, would but humbug men into the belief that they could economically manage their own engineering, and thus under the guise of friendship deplete their pockets, and lead them astray.

One Single Caution,

however, is so easy of application, and of such importance as to justify its insertion, though it has already appeared in the SCIENTIFIC AND RURAL PRESS.

Some, perhaps all of the tide lands lying near the mouth of the Sacramento and San Joaquin rivers, are of a very porous nature, and until consolidated by drainage and settling, may not inaptly be likened to huge pieces of sponge, the edges of which are covered by a coating of clayey sediment, very nearly impervious to water. Upon the upper ends of some of the islands, sediment has accumulated to such an extent as to form quite a firm soil for several rods inland; while upon the lower ends, it is simply a thin layer extending but a few yards from the shore. Where this sediment is of sufficient depth to reach some feet below the bottom of the ditch or excavation made in constructing the levee, and is of sufficient consistency at this depth, to keep out water, the levee may, if desirable, be located on the inside of the ditch; but, upon the lower ends of these islands, where the coating is only two or three feet in thickness, sometimes not even that, the ditch should be on the inside, otherwise, cutting through this impervious layer, it would admit water to the edges of the sponge, and the land inside would remain so saturated as greatly to impede, if not wholly prevent cultivation, until sediment is deposited in the ditch, in sufficient quantities to stop the water, which in many cases, might not be for years. Contrary to our recommendation, the ditch, in one or two instances, has, under these circumstances, been made on the outside, with results such as we foretold.

[To be continued.]

The Next Legislature.

The following is a list of Senators and Assemblymen elect and hold-over Senators, who will meet at the State Capitol on the first Monday of December next:

Senators.

Andros, M. C.—R; Tuolumne and Mono.
Bloucher, David—R; Butte, Plumas and Lassen.
Boggs, John—D; Colusa and Tehama.
Beck, Thomas—D; Monterey and Santa Cruz.
Banvard, Edgar M.—D; Placer.
Betge, Robert—D; San Francisco.
Conte, A.—D; Sacramento.
Crane, L. T.—R; Yuba.
Dwyer, Barlow—R; Calaveras.
Duffy, James A.—R; Sacramento.
De Haven, J. J.—R; Del Norte, Humboldt and Klamath.
Evans, George S.—R; San Joaquin.
Farley, James T.—D; Amador and Alpine.
Fowler, Thomas—D; Fresno, Tulare and Kern.
Finney, S. J.—R; San Francisco and San Mateo.
Gwin, Wm. M.—D; Calaveras.
Goodall, David—R; Contra Costa and Marin.
Garratt, W. T.—R; San Francisco.
Hutchings, Samuel C.—D; Sutter and Yuba.
Irwin, Wm.—D; Siskiyou.
Keys, T. J.—D; Mariposa, Merced and Stanislaus.
Kent, Charles—R; Nevada.
Larkin, Henry—D; El Dorado.
McCusick, H. J.—R; El Dorado.
McCoy, James—D; San Diego and San Bernardino.
MacLay, Charles—D; Santa Clara.
McMurray, John—D; Shasta and Trinity.
Minis, Wm.—D; Solano and Yolo.
Neff, Jacob—R; Placer.
O'Connor, M. P.—D; Nevada.
Oulton, Geo.—R; San Francisco.
Perkins, Geo. C.—R; Butte, Plumas and Lassen.
Pendegast, W. W.—D; Lake, Napa and Mendocino.
Tompkins, Edward—Ind; Alameda.
Turner, H. K.—R; Sierra.
Tuttle, B. T.—D; Sonoma.
Wilson, B. D.—D; Los Angeles.
Ward, Thos. N.—D; San Francisco.
Wing, Stephen—R; Tuolumne and Mono.

* Hold-over Senators. † Elected to fill vacancy occasioned by death of Dr. Burnett. A vacancy exists in Santa Barbara and San Luis Obispo District, caused by the election of Romualdo Pacheco to the office of Lieutenant Governor.

Assemblymen.

Aldrich, W. A.—R; San Francisco.
Andrews, A. R.—D; Shasta.
Brown, C. L. F.—R; Calaveras.
Burkhalter, J.—D; Kern and Tulare.
Barklage, Wm.—R; El Dorado.
Bayley, A. J.—D; El Dorado.
Barnes, B. W.—R; Plumas and Lassen.
Bell, Robert—R; Nevada.
Barker, S.—R; Nevada.
Baird, Custis—R; San Mateo.
Brooks, G. N.—R; Santa Cruz.
Berry, C. P.—D; Sutter.
Bacon, P. B.—R; Tuolumne, Mono and Inyo.
Bradley, J. C.—R; Yuba.
Coleman, Cyrus—R; Alpine and Amador.
Crane, E. T.—R; Alameda.
Center, Samuel H.—R; El Dorado.
Chalmers, Robert—R; El Dorado.
Caldwell, Wm.—D; Sonoma.
Connolly, W. C.—D; Tuolumne, Mono and Inyo.
De Haven, W. N.—R; Butte.
Days, J. M.—R; Nevada.
Dannals, Geo. W.—D; San Diego.
Eagan, J. A.—Ind; Alpine and Amador.
Ellis, Asa—D; Los Angeles.
Everett Henry—R; Nevada.
Eagar, William—R; Yuba.
French, C. G.—R; Sacramento.
Frank, H. C.—R; Santa Clara.
Freeman, T. S.—R; Yolo.
Gibson, J. L.—D; Calaveras.
Galloway, Joseph W.—R; Contra Costa.
Gray, Giles H.—R; San Francisco.
Goodall, Charles—R; San Francisco.
Hays, H. M.—R; Monterey.
Hopper, P. J.—R; Sacramento.
Harvey, Dr. O.—R; Sacramento.
Henshaw, E. C.—D; Sonoma.
Johnson, Wm.—R; Sacramento.
James, W. T.—R; San Francisco.
Jost, Chas.—R; San Francisco.
Lee, O. H.—R; Placer.
Long, Henry—R; Placer.
Little, W. A.—D; Siskiyou.
Lofton, F. R.—R; Yuba.
Luttrell, J. K.—D; Siskiyou.
Mott, T. D.—D; Los Angeles.
Mathers, Geo. B.—D; Mendocino.
Meeker, David—R; San Francisco.
McCullough, Samuel—R; San Francisco.
Munday, R. B.—D; Sonoma.
Mott, E. B.—R; Sacramento.
Pardee, E. H.—R; Alameda.
Rector, T. H.—D; Del Norte and Klamath.
Russ, Joseph—R; Humboldt.
Rice, J. B.—R; Marin.
Reed, H. R.—R; San Francisco.
Stillwagon, N. W.—R; Lake and Napa.
Sensabaugh, J. B.—D; Merced.
Slaughter, F. M.—D; San Bernardino.
Shannon, T. B.—R; San Francisco.
Spivalo, A. D.—R; San Francisco.
Seive, John—R; San Francisco.

Sargent, R. C.—R; San Joaquin.
Sargent, S. P.—R; Santa Clara.
Spencer, T. E.—R; Santa Clara.
Sanders, B. J.—R; Sierra.
Shrack, L. M.—D; Calaveras.
Tinner, J. N.—R; Butte.
Tinnin, H. J.—D; Trinity.
Ward, Loomis—D; Colusa.
Walker, J. M.—D; Fresno.
Wilcox, John W.—D; Mariposa.
Wilty, Jacob—R; Placer.
Wheaton, Wm. R.—R; San Francisco.
Woodward, F. J.—R; San Joaquin.
Wasson, Milton—R; Santa Barbara.
Whitney, D. L.—R; Sierra.
Wright, M. J.—R; Solano.
Whitney, Geo. A.—D; Tuolumne Mono and Inyo.

The Senate stands 18 Republicans, 21 Democrats, 1 Independent and 1 to be elected. The Assembly stands 55 Republicans, 24 Democrats, 1 Independent.

Meteorological Record

For the month ending October 31, 1871, by Thos. Tennet, chronometer and watchmaker, Battery street, opposite the Custom House:

| BAROMETER. | |
|--|---------------|
| Mean height at 9 A. M. | 30.14 inches. |
| " " at 12 M. | 30.14 " |
| " " at 3 P. M. | 30.12 " |
| " " at 6 P. M. | 30.11 " |
| Greatest height on the 24th at 9 A. M. | 30.27 " |
| Least height on the 12th at 6 P. M. | 29.91 " |
| THERMOMETER. | |
| In the shade and free from reflected heat: | |
| Mean height at 9 A. M. | 63 degrees. |
| " " at 12 M. | 67 " |
| " " at 3 P. M. | 69 " |
| " " at 6 P. M. | 64 " |
| Greatest height on the 21st at 3 P. M. | 64 " |
| Least height on the 26th and 30th at 9 A. M. | 58 " |
| SELF-REGISTERING THERMOMETER. | |
| Mean height during the night..... 48 degrees. | |
| Greatest height on the morning of the 3d..... 56 " | |
| Least height on the morning of the 29th..... 40 " | |
| RAIN GAUGE. | |
| 24th, 0.02 inches; 27th, 0.09 inches. Total for the month, 0.11 inches. Total for the season, 0.14 inches. | |
| WINDS. | |
| North on 16 days; west on 11 days; south and southwest on 4 days. | |
| WEATHER. | |
| Clear on 13 days; variable on 12 days; cloudy on 6 days. | |

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, THURS., A. M., Nov. 9.

FLOUR—The local inquiry continues fair, with very little enquiry for export. Sales reported embrace 4,500 bbls. Cal. extra, 2,000 Oregon extra and 3,000 Cal. superfine, at current rates. We quote prices without change as follows:
Superfine, \$6.75@7.00 extra, in sacks, of 196 lbs. \$7.75. Standard Oregon brands, extra, may be quoted \$7.62½@7.75.

WHEAT—The demand has been light, being confined to the wants of local millers, and transactions in consequence are limited. Sales include some 12,000 sacks fair to choice at \$2.45@2.65. We quote at close for \$2.45@2.60.

The latest Liverpool market quotation comes through at 12s. 11d.—a decline of 3d since last report.

BARLEY—Has been in only moderate demand during the past week. Sales embrace 8,000 sacks ordinary coast to choice bay, at \$1.80@2.07½, which is the range at the close.

OATS—There is a better feeling in this grain than at the time of our last report. Sales embrace 7,000 sacks ordinary coast to choice bay, at \$1.65@1.87½, which is a fair quotation at close.

CORN—Market temporarily better. We quote between \$2.00@2.05.

CORNMEAL—Is quotable at \$2.75@3.25, from the mill.

BUCKWHEAT—Declined to \$2.50½@2.62½.
RYE—According to quality is quotable at \$2.30@2.35.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Demand fair at \$30 per ton from the mill.

MIDDINGS—For feed are selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Has been in good demand, during the past seven days, and prices at close are \$18@24 for fair to choice 3 ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-b cans, \$4 per doz.

POTATOES—The receipts have been very heavy during the week under review. Good to choice qualities of Red are quoted at 50c@51, fair to choice Humboldt at 90@95c.

SWEET POTATOES—Are selling at \$1.00@1.25.

HOPS—We quote new at 45@55c.

HIDES—During past week 1,700 Cal. dry sold at 17@18 and 1,720 salted at 9@9½c.

WOOL—The market is decidedly slack and several lots have been sold at a decline on prices of last week. No particular animation; though one of our leading houses has sold 650,000 lbs. the largest sale that has taken place for several weeks; another sold 112,000 lbs., both at private rates. We quote good shipping grades at

22@26 and fancy clips at 28c. Burry and dirty in large supply, but still neglected.

TALLOW—Market steady at 9@10c 3 lb.

SEEDS—Flax 3c; Canary, 7@7½c., Alfalfa, 15@16c, new and clean, 19c. Mustard—California Brown, 3@6c; Cal. White 3½@4½c. 3 lb. Sale of 36,000 lbs. good White Mustard at 4c.

PROVISIONS—California Bacon 14½@15c; Oregon, 15½@16c; Eastern do. 14@14½c; for heavy and 15½@16 for light; Cal. Hams 15@15½; Or. 15½@16c; California Sugar-cured Hams, 17@18c; Oregon do. 17@18c; Eastern do. 20@21c; California Smoked Beef, 14c.

BEANS—Market remains firm. The following are jobbing rates: Pea 3.00@3.25; small White \$3.00; small Butter \$2.75@3.25; Pink \$2.25@2.50; Bayo, \$3.75 3 lb 100 lbs.

ONIONS—We quote the range from fair to choice at 80@90c. 3 lb 100 lbs.

NUTS—California Almonds, 10@12½c for hard and 15@20c for soft shell; Peanuts, 4@6c; Pecan, 25c 3 lb. Walnuts, 10c; Hickory, 12c; Brazil, 16c.

SPICES—Coffee, Costa Rica 21c; Guatemala 20c; Java 25½c; Manilla, 19½@20; Rio 19½@20. Ground Coffee in cases 30c. Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Ground Spices—Allspice \$1.00 per doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 per dozen; Mace \$1.50 3 lb.; Ginger 15c 3 lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9c 3 lb. Do 2d quality 7@8c 3 lb. Do 3d do 5@6c 3 lb.

VEAL—Quotable at 8@10c.

MUTTON—5@6c 3 lb.

LAMB—Without change at 7c 3 lb.

PORK—Undressed grain-fed is quotable at 6@6½c. dressed, grain-fed, 8@9c.

POULTRY—Live Turkeys, 18@20c 3 lb; Hens and large Roosters, \$6.00@6.50; Spring Chickens, \$4.00@4.50. Ducks, tame, \$6.00@7.00 per doz., wild \$1.50@3.50; Geese, \$12@15 3 lb dozen.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 45@65c; California firkin butter, 27½@35c. Eastern firkin 20@30c.

CHEESE—California is scarce 10@16c., Eastern, 15@16½c.

EGGS—California fresh, 68@76c. 3 doz.

LARD—California Lard, 11-lb tins, 13@14c; Oregon in bbls. 13@13½c.; Eastern do. 13@13½c.

FRUIT.

| | | | |
|--------------------------------------|---------|---|-------|
| Tahitian Oranges..... | \$30 00 | @ | 40 00 |
| Limes, 1,000..... | 5 00 | @ | 15 00 |
| Melissa Lemons, 100..... | 2 00 | @ | 3 00 |
| Bananas, 100..... | 6 50 | @ | — |
| Cocoanuts, 100..... | 60 | @ | 1 25 |
| Apples, 100 box..... | 75 | @ | 1 00 |
| Pears, cooking..... | — | @ | — |
| Winter Nellis..... | — | @ | — |
| Seckel do, 100 box..... | — | @ | — |
| Peaches, 100 box..... | — | @ | — |
| Choice Mountain do, 100 lb..... | 1 00 | @ | 1 25 |
| Quinces, 100 box..... | — | @ | — |
| Strawberries, 100 lb..... | 4 | @ | 6 |
| Plums, 100 lb..... | — | @ | — |
| Prunes, 100 lb..... | 6 | @ | 8 |
| Figs, 100 lb..... | 2 | @ | 3 |
| Grapes, Sweetwater, 100 lb..... | 1 | @ | 2 |
| Mission do, 100 lb..... | 4 | @ | 6 |
| Rose of Peru do, 100 lb..... | 4 | @ | 6 |
| Black Hamburg do, 100 lb..... | 3 | @ | 5 |
| Muscad of Alexandria do, 100 lb..... | 4 | @ | 6 |
| Flame Tokay do, 100 lb..... | — | @ | — |
| Isabella do, 100 lb..... | — | @ | — |

DRIED FRUIT.

| | | | |
|------------------------|----|---|----|
| Apples, 100 lb..... | 6 | @ | 8 |
| Pears 100 lb..... | 8 | @ | 10 |
| Peaches, 100 lb..... | 9 | @ | 9½ |
| Apricots, 100 lb..... | 8 | @ | 8½ |
| Plums, 100 lb..... | 6 | @ | 8 |
| Pitted do, 100 lb..... | 18 | @ | 20 |
| Raisins 100 lb..... | 10 | @ | 15 |

VEGETABLES.

| | | | |
|--------------------------------|------|---|------|
| Cabbage, 100 lb..... | 1 | @ | 1½ |
| Garlic, 100 lb..... | 1 | @ | — |
| String Beans, 100 lb..... | — | @ | — |
| Summer Squash, 100..... | — | @ | — |
| Tomatoes, 100 box..... | 60 | @ | 1 25 |
| Cucumbers, 100 box..... | 1 25 | @ | 1 50 |
| Green Corn, 100 doz..... | 12 | @ | 20 |
| Watermelons, each..... | 6 | @ | 8 |
| Cantaloupes, each..... | 6 | @ | 8 |
| Lima Beans, 100 lb..... | 2½ | @ | 3 |
| Marrowfat Squash, per ton..... | 5 00 | @ | 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Continued inquiry for ploughs, otherwise the market remains unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—The recent advance in the wholesale is not strictly adhered to, there being some cutting under in bad Oregon Pine and Redwood. The stock of Oregon pine is light, and cargo rates are firm at the recent advance. Sale of 200,000 feet of Oregon for export to Calcutta. Dealers pay for cargoes as follows:

| | | | |
|--|---------|----|---------|
| Merchantable worked rustic..... | \$31 00 | to | \$32 50 |
| Refuse do do..... | 20 00 | to | 21 50 |
| Merchantable surfaced and rough clear..... | 28 00 | to | 30 00 |
| Refuse surfaced and rough..... | 18 00 | to | 20 00 |
| Merchantable beaded flooring..... | 28 00 | to | 30 00 |
| Refuse do do..... | 18 00 | to | 20 00 |
| Merchantable rough..... | 15 00 | to | 16 00 |
| Refuse do do..... | 11 00 | to | 12 00 |
| Fancy Pickets..... | 22 50 | to | 25 00 |
| Rough Pickets..... | 15 00 | to | 16 00 |

Mr. Wm. H. MURRAY, general agent and correspondent for the PACIFIC RURAL PRESS—one of the finest journals of its kind in the United States is in this city. We hope our agricultural friends, in attendance upon the Territorial Fair, will extend to Mr. Murray a hearty welcome, and largely swell Montana's subscription list to the valuable paper he represents.—*Helena Herald, M. T.*

Thursday Noon our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

San Francisco Retail Market Rates.

THURSDAY NOON, November 9, 1871

MISCELLANEOUS.

| | | | | | | |
|-----------------------------|------|----|------------------|---------------------|-----|---|
| Butter, Cal fr. 65 | @ | 75 | Wool Sacks, new | @ | 70 | |
| Picked, Cal. 45 | @ | 50 | Second-hand do | 67½ | @ | |
| do Oregon, 10 | @ | 30 | Wheat-sks, 22x36 | 12 | @ | |
| Honey, 100 lb..... | 25 | @ | 20x36 | 12 | @ | |
| Cheese, 100 lb..... | 20 | @ | 25 | Second-hand do | 12 | @ |
| Eggs, per doz..... | 70 | @ | 25 | Second-hand do | 12 | @ |
| Lard, 100 lb..... | 18 | @ | 25 | Deer Skins, 100 lb. | 15 | @ |
| Sugar, cr. 100 lb..... | 10 | @ | 25 | Sheep sks, w/lon | 50 | @ |
| Brown, do 100 lb..... | 10 | @ | 25 | Sheep sks, plain | 50 | @ |
| Beet, do..... | 1 00 | @ | 13 | Goin't-skins | 25 | @ |
| Sugar, Map. 100 lb..... | 25 | @ | 13 | Dry Cal. Hides..... | 17½ | @ |
| Plums, dried, 100 lb..... | 15 | @ | 30 | Salted do..... | 8½ | @ |
| Peaches, dried, 100 lb..... | 15 | @ | 30 | Dry Mex. Hides..... | 15 | @ |
| | | | 30 | Salted do..... | 9½ | @ |

PRODUCE, ETC.

| | | | |
|---------------------------|------|---|----|
| Codfish, dry, 100 lb..... | 8 | @ | 10 |
| Flour, ex. 100 lb..... | 8 50 | @ | — |
| Superfine do..... | 6 00 | @ | — |
| Corn Meal, 100 lb..... | 3 00 | @ | — |
| Wheat, 100 lbs..... | 2 55 | @ | — |
| Oats, 100 lbs..... | 1 65 | @ | — |

FRUITS, VEGETABLES, ETC.

| | | | |
|------------------------------|-------|---|-------|
| Pine Apples, 100 lb..... | 5 00 | @ | — |
| Bananas, 100 lb..... | 3 00 | @ | — |
| Cal. Walnuts, 100 lb..... | 10 | @ | 20 |
| Cranberries, 100 lb..... | 75 | @ | — |
| Cranberries, 100 lb..... | 10 | @ | 25 |
| Pears, table, 100 lb..... | 75 | @ | — |
| Plums, Cherry, 100 lb..... | 6 | @ | 8 |
| Strawberries, 100 lb..... | 37 | @ | 50 |
| Oranges, 100 lb..... | 100 | @ | — |
| Lemons, 100 lb..... | 25 | @ | 30 |
| Limes, cwt..... | 25 00 | @ | 30 00 |
| Figs, dried, 100 lb..... | — | @ | — |
| Asparagus, wh..... | 50 | @ | — |
| Apricots, 100 lb..... | 6 | @ | 10 |
| Artichokes, doz..... | 50 | @ | — |
| Brussels sprouts..... | 50 | @ | — |
| Beets, 100 lb..... | 20 | @ | 25 |
| Potatoes, 100 lb..... | 2 | @ | 3 |
| Potatoes, sweet, 100 lb..... | 4 | @ | 5 |
| Artichokes, 100 lb..... | 1 00 | @ | — |
| Cauliflower, 100 lb..... | 1 00 | @ | — |
| Cabbage, 100 lb..... | 75 | @ | — |
| Carrots, 100 lb..... | 10 | @ | 25 |
| Celery, 100 lb..... | 75 | @ | — |
| Cress, 100 lb..... | 20 | @ | 25 |
| Dried Herbs, 100 lb..... | 25 | @ | 50 |
| Egg Plant, 100 lb..... | 12½ | @ | — |

POULTRY, GAME, MEATS, ETC.

| | | | | | | | |
|------------------------------|------|---|-----|-----------------------|-----|---|----|
| Chickens, apiece | 50 | @ | 75 | Bacon, Cal., 100 lb | 18 | @ | 20 |
| Turkeys, 100 lb..... | | @ | 25 | Oregon, do | 18 | @ | 20 |
| Ducks, wild, 100 lb..... | 50 | @ | 100 | Ilams, Cal., 100 lb | 18 | @ | 20 |
| Tame, do..... | 1 50 | @ | 75 | Hams, Cross's s c | 20 | @ | 25 |
| Teal, 100 lb..... | 3 00 | @ | 75 | Whittaker's field | 20 | @ | 25 |
| Geese, wild, pair | 75 | @ | 100 | Johnson's Or. | 20 | @ | 25 |
| Tame, pair..... | 2 50 | @ | 00 | Salmon, 100 lb..... | 30 | @ | 40 |
| From Chicago..... | | | | Smoked, new, 100 | 10 | @ | 12 |
| Hens, each..... | 75 | @ | 00 | English, 100 lb..... | 10 | @ | 12 |
| Snipe, 100 lb..... | 1 50 | @ | 00 | Rock Cod, 100 lb..... | 8 | @ | 10 |
| Venison, 100 lb..... | 12½ | @ | 00 | Perch, s water, 100 | 10 | @ | 12 |
| Quails, 100 lb..... | 25 | @ | 00 | Fresh water, 100 lb | 12½ | @ | 15 |
| Pigeons, dom. doz | 100 | @ | 00 | Lake Big Trout | 10 | @ | 15 |
| Wild, do..... | 1 50 | @ | 00 | Herring, 100 lb..... | 10 | @ | 12 |
| Hares, each..... | 40 | @ | 00 | Herring, fresh..... | 8 | @ | 10 |
| Rabbits, tame..... | 50 | @ | 00 | Sm'kd, per 100 | 25 | @ | 30 |
| Wild, do, 100 lb..... | 25 | @ | 00 | Tomcod, 100 lb..... | 25 | @ | 30 |
| Squirrel, pair..... | 25 | @ | 00 | Terapin, doz..... | 40 | @ | 50 |
| Beef, tend, 100 lb..... | 20 | @ | 25 | Smoked, p k, ea | 20 | @ | 25 |
| Sirloin and rib..... | 18 | @ | 20 | Fresh, do..... | 20 | @ | 25 |
| Corned, 100 lb..... | 15 | @ | 00 | Sea Bass, 100 lb..... | 25 | @ | 30 |
| Smoked, 100 lb..... | 15 | @ | 00 | Halibut..... | 50 | @ | 60 |
| Pork, rib, etc., 100 lb..... | 12½ | @ | 00 | Sturgeon, 100 lb..... | 40 | @ | 50 |
| Chops, do..... | 12 | @ | 00 | Cod, 100 lb..... | 00 | @ | 20 |
| Veal, 100 lb..... | 15 | @ | 00 | Cheep, 100 lb..... | 50 | @ | 60 |
| Cutlet, do..... | 20 | @ | 00 | Turbot..... | 50 | @ | 60 |
| Mutton chops..... | 12½ | @ | 00 | Crabs 100 lb..... | 50 | @ | 60 |
| Leg, 100 lb..... | 12½ | @ | 00 | Soft Shell..... | 37 | @ | 50 |
| Lamb, 100 lb..... | 15 | @ | 00 | Shrimps..... | 10 | @ | 12 |
| Tongues, beef, ea | 15 | @ | 00 | Prawns..... | 25 | @ | 30 |
| Tongues, pig, ea | 15 | @ | 00 | | | | |

* Per lb. † Per dozen. ‡ Per gallon.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good.

| | | | |
|--|-------|---|-------|
| City Tanned Leather, 100 lb..... | 26 | @ | 29 |
| Santa Cruz Leather, 100 lb..... | 26 | @ | 29 |
| Country Leather, 100 lb..... | 25 | @ | 28 |
| Stock in more than one lot..... | 25 | @ | 28 |
| In leading skins. The cheaper grades still continue firm. California kip and calf skins are still scarce and high. | | | |
| Jodot, 8 Kil, per doz..... | 80 00 | @ | 95 00 |
| Jodot, 11 to 15 Kil, per doz..... | 75 00 | @ | 90 00 |
| Jodot, 16 to 19 Kil, 100 lb..... | 60 00 | @ | 80 00 |
| Lemoine, 16 to 19 Kil, 100 lb..... | 60 00 | @ | 80 00 |
| Levin, 12 and 13 Kil, per doz..... | 68 00 | @ | 70 00 |
| Cornellian, 16 Kil, per doz..... | 72 00 | @ | — |
| Cornellian, 12 to 14 Kil, per doz..... | 65 00 | @ | 70 00 |
| Ogera calf, 100 lb..... | 54 00 | @ | — |
| Robert Calf, 7 and 8 Kil..... | 35 00 | @ | 40 00 |
| French Kips, 100 lb..... | 1 00 | @ | 1 30 |
| California Kip, 100 lb..... | 65 00 | @ | 80 00 |
| Eastern Wheel Stuffed Calf, 100 lb..... | 80 00 | @ | 1 25 |
| Eastern Bench Stuffed Calf, 100 lb..... | 1 10 | @ | 1 25 |
| Eastern Calf for Backs, 100 lb..... | 1 15 | @ | 1 25 |
| Sheep Roans for Topping, all colors, 100 lb..... | 8 00 | @ | 13 00 |
| Sheep Roans for Linings, 100 lb..... | 5 50 | @ | 10 50 |
| California Russett Sheep Linings..... | 1 75 | @ | 5 50 |
| Best Jodot Calf Boot Legs, 100 lb..... | 5 25 | @ | — |
| Good French Calf Boot Legs, 100 lb..... | 4 50 | @ | 5 00 |
| French Calf Boot Legs, 100 lb..... | 4 00 | @ | — |

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HARDWARE,
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Gang Plows,

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Cultivators,

Seed Sowers,

Grain Drills,

Etc. Etc.

18v2-3m

To Tourists.

Your attention is called to the fact that Three Prominent Places of Resort can be visited in one trip, accessible the year round, viz:

CRYSTAL SPRINGS, PESCADERO, SANTA CRUZ.

Pescadero—Fifty-two miles from San Francisco—is one of the most delightful places of resort on the Pacific Coast. Its Beautiful Drives, Beaches of Moss, Pebbles and Shells, Forests, Sparkling Streams, Hunting and Fishing, cannot be surpassed.

TH SWANTON HOUSE, at this place, is all the Tourist could ask, for comfort and convenience; C. W. Swanton, Proprietor.

Santa Cruz has similar advantages and additional bathing facilities. Parties taking the morning train of the San Jose Railroad, on arriving at San Mateo, will find Wellington & Son's First-class Six Horse Coaches, to convey them to Pescadero, arriving at 3 o'clock P. M. Through tickets at the Railroad Office, \$3.85. Connecting with the Santa Cruz and Pescadero State Line, which leaves Pescadero every Tuesday, Thursday and Saturday, and leaves Santa Cruz on alternate days. Fare, \$3.00. Wm. H. Bias, Proprietor. Through distance from San Francisco, 90 miles—the most beautiful of any similar distance on the Pacific Coast. 12v2-3m

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It has a straight needle and makes a Lock Stitch. Send for a circular.

Agents wanted in every county. Each machine warranted for five years.

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2v2-2m

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27v16

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1871.

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Literary and Family Newspaper,

AND THE
Organ of the Masonic Fraternity on the Pacific Coast.

Subscription Reduced to \$2.50 per Year.

ENDORSEMENT OF THE GRAND LODGE.
The following resolution was unanimously adopted by the M. W. Grand Lodge, F. A. M., of the State of California, at its Annual Communication, October, 1870. Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,
Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.
At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:
Resolved, That we recommend the MASONIC MIRROR, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.
At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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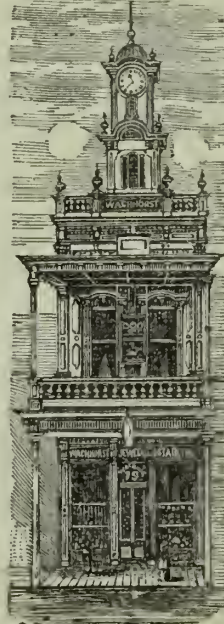
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Any person who will take the trouble to examine this Lamp carefully, will see that it will not explode.

The flame is as white and brilliant as coal gas, and produces neither smoke nor smell. No CHIMNEY is required.

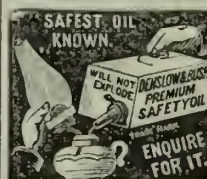
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One Burner is Equal to Six Candles.

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With neither Engine, Piston, or Plunger.

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P. S.—Their new Hotel will be in full blast within fifteen days from this date. oc21-3m

HILL'S PATENT EUREKA GANG PLOW,



The undersigned, Manufacturers of "HILL'S PATENT EUREKA GANG PLOWS," take this method of calling the attention of Agriculturists throughout the Pacific States and Territories to the merits of the above named Plows, and offer the following reasons why they are entitled to preference over any other Plow in use.

They are made of the best material, and every Plow warranted.
They are of light draught, easily adapted to any depth, and are very easily handled.
They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!

These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,

which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by

HILL & KNAUGH,

And also by most leading Agricultural Dealers in the State. All others are invited to apply at once for Circulars, prices, etc. 16v23-tf

MATTESON & WILLIAMSON'S



Took the Premium over all at the great Plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the Best and Most Desirable Gang Plow in the world. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

14v2-3m

Holbrook's Patent Swivel Plows,

For Level Land and Side Hill.

8 Sizes.



WON THE
HIGHEST PRIZE
at N.Y. State Trial,
1870, for Plowing
Sod & Stubble

Send Stamp for Circular.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel Cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

Manufactured and sold by
F. F. HOLBROOK & CO.,
Boston, Massachusetts

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Are especially invited to call and see a Model of the Self-Opening and Self-Closing Gate.

The Simplest and Most Practicable now in use.

—ALSO THE—

Verticle and Straight Mould-Board Plow,

Which is Cheaper of Construction, opens its furrow Wider and Cleaner, and with 20 per cent. Less Draft than ordinary Plows of the same cut.

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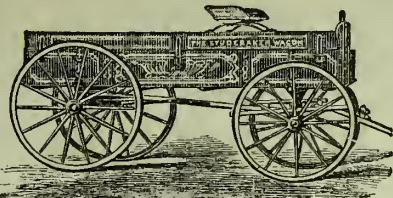
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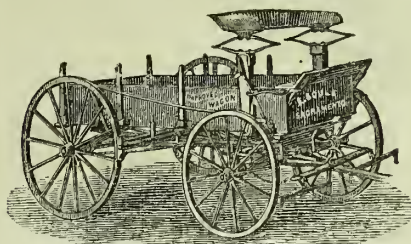
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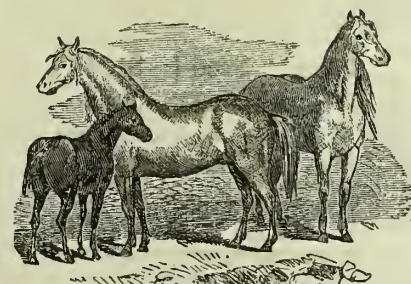
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THE WHITE PRINCE!

The Percheron or Norman Horse, WHITE PRINCE, was imported into Ohio from France in July, 1870, accompanied by

A FULL BLOODED MARE.



White Prince was five years old last spring, and possesses the square, compact, solid form, with the good action of the Percheron race.

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Awarded Three Premiums

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Louisa, at four months old, weighed 640 pounds; girths, 5 feet; weight is not a matter of great interest; but the square, compact, nice form which she presents, is a matter to be especially noted.

I also at the same time (December last) imported

TWO THREE-QUARTER BLOOD MARES,

one of which has a promising horse colt.

Prom the above it will be seen that I am able to raise Full Bloods and High Grades.

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The LITTLE GIANT shells four bushels of corn per hour, and costs only two dollars. If you ever buy one, and it fails to give perfect satisfaction, you can get your money back by returning the Sheller. We would recommend lazy men and women not to buy it, for it is an enemy to both. Local or traveling agents will be supplied with Shellers at low prices, and given sole agencies to sell in their town or county.

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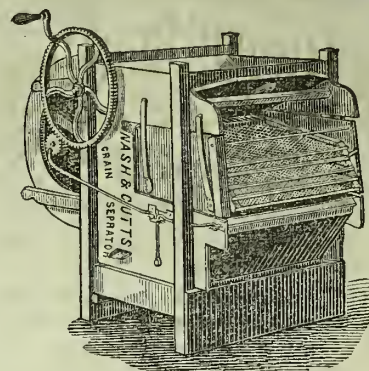
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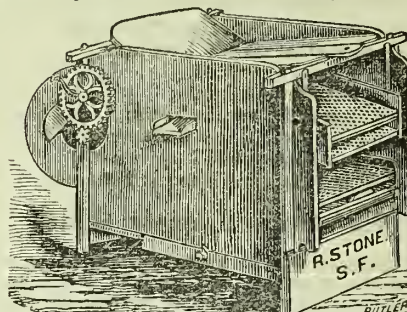
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THE PATENT Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating Grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far exceeds anything that has been invented for the separation of Grain. It has been thoroughly tested on all the different kinds of mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

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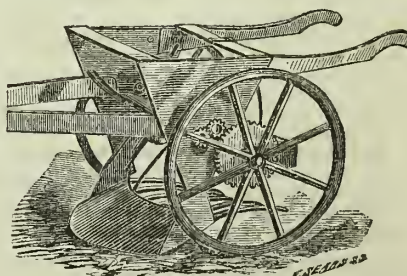
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We ask special attention to this entirely practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model can be seen at our office. Full particulars in regard to Machines or Rights furnished on application.

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Valuable and Timely Hints,

are given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxiliary and modifying instructions.

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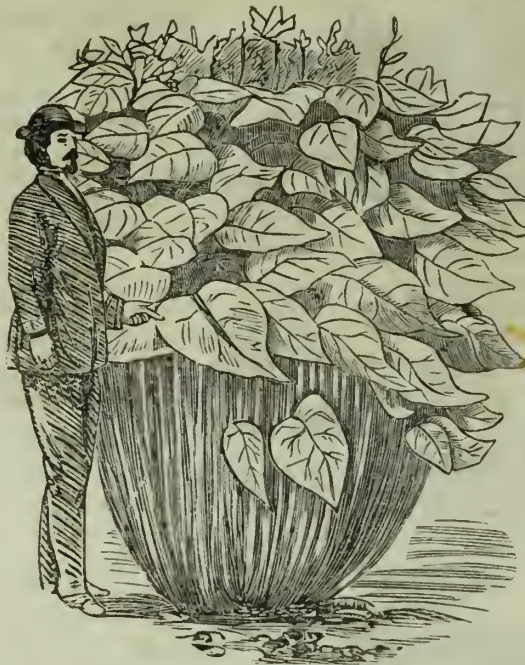
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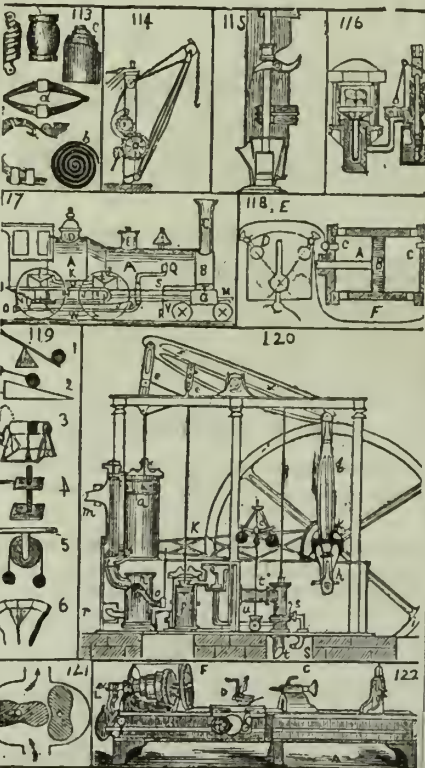


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A Novelty Printing Press for Sale.

It is a new foot-power Press, and just the thing for a small country job office or for amateur printers, and druggists and others who wish to do their own printing. At manufacturers' price, with freight added. Enquire at this office. 11v2tf-1ams

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A small lot of pure WHITE TUSCAN WHEAT for sale. This Wheat is superior to any grown in the State for productiveness, as well as reliability in case of drought. Price, \$3 per bushel. 17v2-1m
Address, G. C. PEARSON, South Vallejo, Cal.

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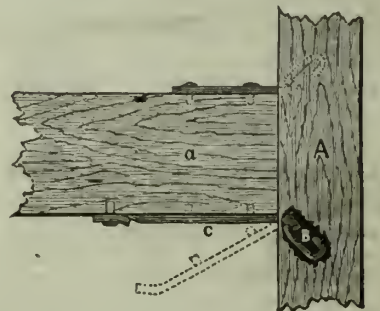


Importer and Breeder of CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale. Address, with stamp, P. O. Box 659, San Francisco.

The Best Bedstead Fastening!

BARLOW'S PATENT, 1871.



Repair Your Bedsteads!

By employing this new California invention, which is bound to supercede all other Fastenings.

They are made of Wrought Iron, by machinery, and are easily applied quickly operate! (as may be seen by the above illustration), and never break or wear out. Don't bother any longer with rickety bedsteads, but buy these fastenings and apply them yourself, or send to the inventor, who will repair any kinds of bedsteads at reasonable rates. Examine this patent device, and, with the best workmen in the city, you will declare it to be the best and only perfect Fastening.

Orders received at my shop, corner of Sixteenth and Harrison streets, or at 320 Kearny street, Room 6.

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E. T. BARLOW, Patentee.

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Twenty miles south of Sacramento,

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PEOPLE'S PRACTICAL POULTRY BOOK.

A Work of 224 pages on the

Breeds, Breeding, Rearing and General Management of Poultry.

By WM. M. LEWIS, New York, 1871; with over One Hundred Engravings. Sold at this office for \$1.75, or sent postage paid for \$2.00.



The Comparative Advantages of Drilling Over Broadcast Sowing.

Few facts are better established in the minds of the best farmers of Europe and in the Atlantic States, especially those who have fairly tried it, than that drilling wheat is decidedly preferable to broadcast sowing, whether done by hand or machine. We have already made brief allusion to this subject, and now, as the season for putting in another crop is fast approaching, we again take it up for more full reference.

The system has already come into almost universal practice in Europe, and every year's experience in the Atlantic States is demonstrating more and more fully its numerous and decided advantages. The Agricultural Department, at Washington, is doing much in this direction in the way of collecting experimental facts and spreading them before the people. We annex a few such experiments for the benefit of our California readers, and give herewith a pictorial illustration of the relative advantages of the two methods, as deduced from actual experience.

A report was made in 1866 to the Goodhue Farmers' Club, of Minnesota, which we condense as follows:—Three fields were seeded with spring wheat of the China Tea variety.

Field No. 1.—Two bushels of seed per acre were sown with broadcast sower and cultivator combined, and covered at depths varying from one to four inches. *Result.*—Good wheat, well filled and standing thick on the ground; but *unequal in growth*—some straws being five or six feet high and others only two. When some of the heads were fully ripened, others were quite green; estimated yield 20 to 25 bushels per acre. [A very correct representation of such a growth is shown in figure 2.]

Field No. 2.—One and a quarter bushels of seed sown in drills, east and west, (distance apart not given) 2½ inches deep; no after cultivation. *Result.*—Had better color during growth than No. 1. and was very even in straw and ripeness; the heads were even and of extra length. Estimated yield 30 bushels per acre. [Fig. 2 gives a very fair illustration of such a growth.]

Field No. 3.—Three pecks per acre, in drills, east and west 2½ inches deep and 18 inches apart. Cultivated once, when one foot high, at a cost of \$1 per acre. *Result.*—Was extra at all times, with deep green color and broad leaves. Appeared like a different kind of grain from Nos. 1 and 2. Stooled out more than either; was uniform in ripeness and length of straw. Estimated yield from 35 to 40 bushels per acre! *Cultivation*, after all seems to be the need, and that can only be reached by drill culture, with quite open rows.

Mr. R. A. Gilpin, of West Chester, Pa., planted in 1866 one acre in a large field, with 3 pecks of seed, drilled in, 20 inches apart. The balance of the field was drilled 10 inches apart. At the proper time, a small hoe-harrow was run between the single acre, drilled wide apart; nothing being done to the rest of the field. The portion they cultivated took a rapid start and quite outgrew the rest of the field. Though tall and heavy headed, it stood the rains and winds better than the uncultivated portion, which was comparatively thin and light. The cultivated acre was much later in ripening than the balance; but it produced 23 bushels while the balance averaged

only 9 bushels to the acre! Thus, cultivation, in this instance also, with wide intervals between rows, seems to have been the principal cause of increased yield—a *single harrowing*, at a cost of not more than \$1.00, producing fourteen bushels extra per acre, (worth in this market from \$11 to \$12) being an increase of 155 per cent. over ordinary culture, besides saving one half of the seed, and time spent in sowing.

A gentleman in Rock county, Wisconsin, reports the cultivation in drills, 14 inches apart, with such marked success as induced him to increase the breadth of such culture thereafter.

Such examples might be increased indefinitely; but enough has been given to draw attention to the matter, and we trust sufficient to induce a few of the more progressive farmers on this coast, to try some experiments this fall, and report results.

One of the chief advantages claimed for drill culture is immunity from drought. Deep and uniform planting secures a uniform and healthy start for the grain,

are also adjustable for grain or grass, and for any width of rows. Any farmer, who has a desire, may experiment upon an acre, more or less; by hand drilling—using a plow, rake or hoe for opening and covering the drills, dropping the seed by hand and performing the after cultivation by hand also. It would be well in experimenting, to test at the same time the value of manures. Eighteen to twenty inches is doubtless a good distance for the rows; although the English practice is much less—from nine to twelve inches. The soil there, however, is more thoroughly cultivated (pulverized) and much higher dressed.

If farmers here, would experiment a little in this way, and report results, they would add vastly to the general fund of agricultural knowledge on the Pacific coast, and to the special application of such knowledge here. All human plans are liable to miscarriage, and it is possible that

above head writes as follows: Our farmers are now making preparations to put in their crops, and many are debating what grain they will plant. Most of the newspapers are striving to discourage the extensive planting of wheat, arguing that if a large breadth of ground be devoted to that grain the market will be overstocked. With the high prices realized this year from wheat, by those who were fortunate enough to escape the drouth, and the prospect of these prices being maintained, we think that no such contingency can occur. There is no doubt that a market will be found for all the surplus wheat raised on this coast for the next year, at prices not only remunerative but profitable. The advices from Europe prove that the crops there are far below the average. England alone anticipates a deficiency of a hundred million bushels, which will have to be made up from the different wheat-growing countries, of which we form no inconsiderable part. In most of the grain-growing districts of Europe from whence the principal supply has been drawn heretofore, advices indicate that the crops will no more than meet the home demand, and other sources of supply will have to be called on. The demand this year will drain the United States of the available grain leaving a bare market to be filled by the next year's crop.

Considering the above facts, we think that our farmers can safely plant wheat with the assurance that the prices realized will be as large, if not larger, than those of this year. If we are favored with a good winter and an abundant rain fall, our crops will bring such a return that our farmers who, for the past two years have suffered from drouth, will be reimbursed for losses sustained and prosperity will visit them again.

Gold Medals Awarded.

The committee appointed to award the gold medals offered by the State Board of Agriculture for the most meritorious exhibitions at the late State Fair, held at a meeting at the Secretary's office, in Sacramento, on Saturday evening. The members present were Prof. E. S. Carr, of the State University; A. T. Dewey, of the Rural Press; and B. B. Redding, W. Wadsworth and E. G. Waite, of this city. After hearing read the statements of the several claimants, the medals were awarded as follows:

For the Second Department—To E. Soule, of Sacramento, for home manufactured farm wagon, and wagon materials made from California grown locust timber.

Third Department—To Joseph Neuman, of San José, for home-made silk goods from California-raised cocoons.

Fourth Department—To Winter, Maurer & Co., of the Mission Candle Works, San Francisco, for home-made candles.

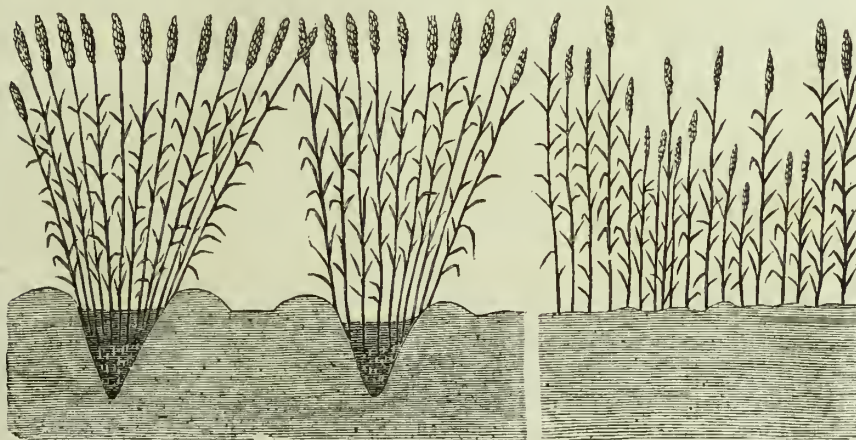
Fifth Department—To Ed. Muller, of Nevada City, for exhibition of the silk business.

Sixth Department—To J. R. Nickerson, of Lincoln, Placer county, for exhibition of fruit.

Seventh Department—To J. C. Devine & Bro., of Sacramento, for sculpture and other work in marble.

The medal for the First Department—stock—was not referred to this committee to award. The claimants evinced a lively interest in the awards, and their statements of their claims were very interesting and contain many valuable facts.

The committee also recommended a gold medal for the Pacific Wood Preserving Co. of San Francisco.



WHEAT SOWN IN DRILLS—NO. 1.

WHEAT SOWN BROADCAST.—NO. 2.

which enables it to withstand the severest drouth. There is one pre-requisite to the use of the drill, which must always be taken into the account for the proper effect to be drawn from it—the land must be plowed deep and thoroughly pulverized. The chief advantages derivable from drill culture may be summed up as follows:

The seed is covered deeper and more uniformly.

The crops are better able to withstand drouths.

Concentrated manures may be placed in the drill with the seed, thereby obtaining the fullest and most immediate benefit from almost the only manures attainable by wheat growers in this State.

Weeds can be easily disposed of, at little cost, and as shown above, with great advantage to the crops.

The plants may thus receive the undivided benefit of the soil and manure, and do not have to maintain a constant struggle with weeds.

By the free admission of sun and air between the rows a stronger and healthier plant is produced and of course a heavier crop.

From 25 to 50 per cent. can be saved in the amount of seed required, while quite as large a percentage is generally added to the average yield.

Various descriptions of drilling machines are manufactured, some with and some without guano attachments. They

this system, which works so well at the East and in Europe, is not applicable here; but there is very little room for anticipating any such result. The truth, however, can be brought out only by practical experiments in the field.

The Planting Season.

The farmers are everywhere making preparations to put in their crops, or are already engaged in that work. Mr. R. H. Barkway of Binghampton, Solano county, writes under date of November 2d, as follows: "The largest part of the wheat seeding is over with us. October is perhaps the busiest month of the year. I think I may safely say that more wheat has been sown the past month than any previous year in this locality. From Binghampton to Maine Prairie; from Maine Prairie to Dixon, and still further north into Yolo county, nearly all the ground is sown. First, the summer fallow, the farmer's strong hold, then the stubble and hay ground, cultivated and harrowed, though some hardly gets a scratching. The farmers are willing to venture their all on the coming season. The Press takes well here."

The Saucelito Herald, also under the

MECHANICAL PROGRESS.

A Most Important Discovery—if True.

The Portland *Dispatch*, in a late issue, gives the details of a most important discovery, if the statements of that journal can be relied upon. The discovery or invention has been made by Mr. Robert Spear, and consists in a simple device, whereby it is claimed that compressed air can be forced through tubes any required distance without any sensible loss by friction. The importance of such a discovery can scarcely be over-estimated even by an imagination allowed the freest flight. It would bring cheap power to many workshops and households, as gas and water are now brought. Automatic machinery, worked by tidal forces, might supply any city on the sea coast. A waterfall might furnish the whole region about it with a cheap power for workshops.

To the miners of California such a result would be of incalculable importance, in reducing the cost of ventilation by forcing air through tubes, and in conveying power to drilling machines, which must soon be very generally introduced into tunneling operations.

The device whereby it is claimed all this can be effected consists, as described by the *Dispatch*, as follows:—

"The invention consists in the discovery that while in tubes of uniform size, fluids in their passage gradually lose their force and velocity, by making at short intervals peculiar contractions in the pipe, the original power is transmitted without loss—absolutely without loss. By using colored fluids in glass tubes provided with Spear's invention, it is demonstrated that the propelled current is kept in the center of the tube, without any friction at the sides.

"If by a diaphragm pierced with holes at the sides, this current is forced to divide and seek passage next the inner surface of the pipe, it at once resumes its course in the center after the obstruction is passed.

"He has also discovered that while any angle or bend in an ordinary pipe obstructs a fluid flowing through, by enlarging the pipe at angles, the friction and loss of power is overcome. At Mont Cenis and at the Hoosac Tunnel it has been found necessary to greatly enlarge the whole conducting pipe for every mile of distance the compressed air has to be forced. This, of course, seriously increased the expense. Mr. Spear's invention greatly reduces the size of conduit necessary for long distances."

To show the practical value of the invention, pipes constructed with his device have been connected with an 8-horse power steam engine, in Portland, by which it is claimed the power is conducted 480 feet much cheaper than steam can be conducted in the ordinary manner—30 pounds initial pressure of air doing the same work that requires 40 pounds steam pressure.

The value of the above alleged invention might easily be tested at almost any locality, where a steam pump or other air compressing machinery can be had. While it is possible that there may be something in it, the claim set up that all friction in the passage of air or water through pipes is thereby overcome, and power transmitted "absolutely without loss," is of course preposterous.

WROUGHT IRON TIES.—According to the English scientific journals wrought iron ties are regarded with especial favor by many practical railroad builders of large experience, especially for use in tropical countries. The ties most popular are composed of a number of webs and plates of rolled iron riveted together and pierced with bolt holes for the chairs. The first cost of these ties is found not to exceed the cost of the best wooden ties by more than one shilling each, and this is more than compensated by their greater durability and the saving in the expense of laying them, as compared with wood. They are also considered safer, as enabling the rails to be much more firmly secured than if spiked down to wooden ties. Properly coated they may not only be protected against rust, but they are proof against insects and worms, to the ravages of which wooden ties are much exposed in India and other tropical climates. It is not likely that their use in northern latitudes would be attended with economy at the present time, but the time is not far distant in this country when the supply of wood available for ties will be so far reduced to make their cost nearly, if not quite, as great as that of iron ties, and the experiments now in progress in India have an interest for railroad builders in this country greater than would at first appear.

ADJUSTABLE CAR AXLES.—A diversity of one, two or more inches in the gauge of connecting roads of course involves the necessity of breaking bulk, an annoying and expensive operation not unattended with profitless delay. To obviate this, the most obvious means consists in so constructing the truck axles of the cars that the wheels may be readily adjusted at different distances apart. This plan has been tried in a number of instances and abandoned as impracticable. In some cases where the necessity was urgent the gauge of the connecting railroad has been changed, so as to present the desired uniformity. In other cases, at least in Europe if not in the United States, trucks of different gauge, capable of replacement, have been substituted for the adjustable axle.

It is still thought, however, by many good engineers, that the mechanical difficulties which have hitherto rendered adjustable axles impracticable, might, and should be, overcome, inasmuch as such axles certainly afford a much more feasible, cheap, and, in the end, efficient means of accommodating cars to change of gauge than the clumsy resource of interchangeable trucks. If the adjustable axles are not yet what they should be, let them be made so, for the system, properly applied, has too much utility in it to be profitably thrown away. An opportunity is here presented for the profitable exercise of the skill of some of our best inventors.

A VALUABLE TIMBER FOR PILES.—THE JARRAH OF AUSTRALIA.—A great deal of discussion has taken place during the last twelve months relative to the durability of the jarrah timber of Western Australia, but until the present time no positive proof has been given to residents in Melbourne of its good qualities. There are, however, at present on view at the Flinders street station of the M. and H. B. Railway Company there, three logs of jarrah timber which have, for the last thirty years, formed a portion of the jetty at Perth, Swan River, Western Australia. They have been drawn by the government and forwarded to Melbourne with a view of exhibiting the capabilities of this wood. The logs are about 20 feet in length, with a diameter of about 12 inches, and, having been sawn down the full length and polished, exhibit the splendid grain of the wood to great advantage. The wood, it appears, is as firm and solid as when first hewn. The grain is close, of a fine dark color, and takes a rich polish.—*Builder.*

PREVENTION OF CALCAREOUS BOILER INCrustation.—A very simple mode of preventing boiler incrustation is in general use at Darmstadt Gas Works. The engine has worked night and day since 1854, almost without interruption, and the formation of calcareous deposits has been prevented by the use of crude pyroligneous acid, combined with tar; it is either introduced into the boiler or mixed with the feed water. Since the mixture has been in use they have never had to use a hammer to remove scale. Each year during the summer, when less gas is required, the boiler is opened, and perhaps a couple of handfuls of loose sediment taken from the bottom. The quantity employed is very small—just enough to redden litmus paper; consequently the iron is not attacked, as indeed is apparent from the fact that the boiler has been but twice under repair.—*Gas Light Journal.*

CAST IRON RAILROADS.—An interesting experiment has lately been made by the Clyde Navigation Co. in the use of cast, instead of rolled iron for a tramway on the South Quay. The trial is said to have stood the severest tests for over four months, at a locality where the traffic was almost continuous with no signs of displacement or wear or need of repair. So satisfactory has been this experiment that it is said cast iron tramways are to be laid upon all the quays and yards of the Navigation Co. in Glasgow, with a prospect of good results and great economy. Here is an opportunity for American inventors in the street railway line.

A MAMMOTH STEAMER.—It is rumored that Daniel Drew and others have entered into arrangements to build a mammoth steamer for the Hudson river, which is to be run between Albany and New York to compete with the palace cars of the Hudson River Railroad. It is intended that the new steamboat shall be 500 feet long! The engine will be 100 inch cylinder and 18 foot stroke, and the steamer capable of making 28 miles per hour, and to average near that speed daily. The steamer will carry no freight, and will be run exclusively for passengers.—*Ex.*

SCIENTIFIC PROGRESS.

Vaccination and Disease.

The most experienced vaccinators, on the one hand, and those who have had most to do with the treatment of infantile ailments, on the other, agree in the belief that disease is not communicable by vaccination. Mr. Marson, an English physician, in the performance of more than fifty thousand vaccinations, "has never seen other diseases communicated with the vaccine disease, nor does he believe in the popular reports that they are so communicated." Mr. Lees, whose observations were equally extensive, has borne similar testimony. Dr. W. Jenner, who in six years had some thirteen thousand sick adults and children under observation, states "that in no case had he reason to believe, or even to suspect, that any constitutional taint had been conveyed from one person to another by vaccination." During a period of seventeen years Dr. West treated twenty-six thousand infants and children, with a like experience; and Prof. Paget, after an extensive familiarity with the diseases of children, expresses the opinion that the worst which can be charged upon vaccination is that, by disturbing for a time the general health, it may rarely give opportunity for the external manifestation and complete evolution of some constitutional affection which but for it might have remained rather longer latent.

Where every person in a community has been properly vaccinated, there is little chance for small-pox to obtain a foothold; and it is also very certain that the presence of the unvaccinated is a standing invitation to the development and spread of epidemics. The opponents of vaccination, and a far larger number who from ignorance or carelessness neglect the precaution, thus become, so far as the public health is concerned, a "dangerous class," which like other dangerous classes it is for the interest of the community at large to remove.—*Galaxy.*

ENCKE'S COMET, now on its way towards its perihelion, was seen from the observatory of the Sheffield Scientific School, on the evening of Oct. 13th. It was barely observable as a diffuse nebula. It will reach its perihelion on the 29th of December. This comet is principally of interest because its period of revolution has diminished about three days in the past eight years, a fact which is generally accepted as furnishing the best proof of the theory that the regions of space are filled with a material "ether" capable of retarding the motion of the bodies composing the solar system. Of course this resisting medium would produce annual effects upon the comet of a few tons in weight, that would not be experienced by our earth in the course of thousands of ages. But the result, though long deferred, is none the less inevitable—earth, plants and comets will all be eventually precipitated into the sun.

NEW ASTEROID.—Within a few months there have been three additions to the large family of minor planets between the orbits of Mars and Jupiter—all discovered by American observers. The first, No. 114, and the second, No. 116, were discovered by Prof. Peters of Hamilton College, the former July 23d and the latter on the 8th of Sept. last. No. 115 was discovered by Prof. Watson of Ann Arbor, Mich., Aug. 6th. The last discovery, Sept. 8th, forms the 116th of these fragmentary planets, (for such they undoubtedly are) all but four of which have been discovered within the last 26 years. Only one of these asteroids (Vesta) is ever visible to the naked eye, and that only under favorable circumstances. "Planetoids" is the title now more generally given to this group of stars, a term much more appropriate to their supposed origin and position among the heavenly bodies.

A NEW PRODUCT FROM ENGLISH WALNUTS.—According to Dr. Phipson, the English walnut, (*Juglans regia*), and probably the American species also, contains, among other substances, one which he calls *regianine*, (obtained by treating the green husk of the fruit with benzole,) which appears in the form of a yellowish substance crystallizing in groups of feather-like crystals. These are easily decomposed, and when treated with alkalies or ammonia, yield a splendid and durable red solution which by a subsequent treatment, becomes the jet black, amorphous, pure regianic acid.

TO FIX DRAWINGS.—The Marquis de Verreux has discovered a method, which is equally simple and ingenious, of giving to drawings in pencils and crayons the fixidity of painting, and without injury. He succeeded in obtaining this result by varnishing them on the back with an alcoholic solution of white gum-lac. This solution quickly penetrates the paper, and enters even into the marks of the crayon on the other side. The alcohol rapidly evaporates, so that in an instant all the light dust from the crayons and chalk, which resembles that on the wings of the butterfly, adheres so firmly to the paper, that the drawing may be rubbed and carried about without the least particle being effaced. The following are the accurate proportions of the solution:—10 grammes of common gum-lac are dissolved in 120 grammes of alcohol; the liquid is afterwards bleached with animal charcoal. For the same purpose may be used even the ready-made paint that can be purchased at the color shops, containing a sixth of white lac, and adding two-thirds of rectified spirits of wine. After it has been filtered, there is nothing further to be done than to spread a layer of either of these solutions at the back of the drawing, in order to give them the solidity required.

SCIENCE IN PRUSSIA.—Sir Wm. Thompson stated in his recent address before the British Association, that in Prussia every university, every polytechnic academy, every industrial school, most of the grammar schools, in a word nearly all the schools superior in rank to the elementary schools of the common people, are supplied with chemical laboratories and a collection of philosophical instruments and apparatus, access to which is most liberally granted by the directors of those schools to any person qualified for scientific experiments. In consequence there will scarcely be found a town exceeding 5,000 inhabitants that does not offer facilities for scientific investigations at no other cost than that of the materials wasted in the experiments. And further, professors, preceptors, and teachers of secondary schools are engaged on account of their skillfulness in teaching, but professors of universities are never engaged unless they have already proved by their own investigations that they are to be relied upon for the advancement of science.

ALBUMEN CHARCOAL.—A preparation called albumen charcoal has been devised for the purpose of clarifying sugar syrups, and for which it is said to answer an excellent purpose, a very small quantity only being required. Its application in clarifying wines has been suggested, although it is not stated whether it is exactly suitable. To prepare this substance, finely powdered and purified animal charcoal is to be mixed to a stiff dough with white of egg, and torn apart into small pieces, dusted with the charcoal, dried, and pulverized, and again kneaded with egg albumen to a dough, which is to be dried and powdered anew.

COMPLIMENTARY.—Prof. Chas. A. Young of Dartmouth College, the astronomer who observed and reported the remarkable explosion in the sun, which we published last week, has received a cable telegram from Prof. Lockyer, the eminent English astronomer, inviting him to join the English Eclipse Expedition to India, offering to pay all his expenses, etc. This is a high compliment to our distinguished American astronomer, and it is a matter of regret that important home duties prevent him from accepting the invitation.

THE FREEZING OF WATER.—The interesting experiments of Boassingault, showing that water will remain unfrozen down to 18° C. when so confined that the dilatation due to freezing cannot be effected, and to which we alluded last week, was performed simply with a steel gun-barrel into which a steel ball was dropped before filling it with water. During the cold days of December, 1870, the temperature fell to -12° and -18° C., and yet on shaking the tube the ball was found to move freely, showing that the water was not frozen.

THE CORDOBA OBSERVATORY.—Further intelligence has been received from Dr. B. A. Gould, who, our readers will recollect, has been recently established in an observatory in the high region of Cordoba, South America, for the purpose of studying the southern stars. The Doctor and assistants have already observed and placed upon the maps 4,500 stars—more than half of which have never before been catalogued. His mission promises to be one of unusual interest and usefulness in the cause of astronomy.

CORRESPONDENCE.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.—CONTINUED.

[By our Traveling Correspondent.]

Old Gilroy, or San Ysidro, is situated about two and one-half miles southeast of the Gilroy depot, and contains about 350 inhabitants. John M. Bruen, Esq., is its principal merchant and postmaster; also farms some 100 acres—in the vicinity (his wheat averaged him 66 bushels per acre this season). His orchard, comprising ten acres, is in a splendid condition, very productive, and contains a fine variety of well-selected fruits.

John Gilroy,

after whom the town was named, came to this State in the year 1814. He was the first white inhabitant to settle in this vicinity—which he did in the year 1835; he married here a native California lady—through whom he inherited some ten leagues of land; he died about two years since, and now the land is subdivided, and so thickly inhabited, as to almost look like a city.

R. Eschenburg.

This gentleman has 350 acres of fine land; cultivating 65 acres, dairying the balance, milking 60 cows, that average from 3 to 3½ lbs. of cheese per day, during the best of the season; has also a few fine draught horses, and 40 head of very fine Berkshire hogs. His place is situated 5 miles southeast of Gilroy.

Albert Wilson's Dairy.

Mr. W. has 512 acres of fine dairy land, 70 of which he farms in wheat, barley, corn, vegetables and fruit; is dairying 85 head of milch cows; has been making cheese only; just started into making butter. Mr. W. made 17,500 lbs. of cheese last year; his arrangements for cheesemaking are very complete; his fruit crop was not extra, but an average one this year.

San Felipe.

This little village is situated 11 miles southeast of Gilroy, and contains one hotel, a blacksmith shop, and store. Its merchant, Mr. Dunlap, is also one of the principal landed men of this section.

James Dunn's Stock Ranch

is situated on the San Felipe grant, one mile from the post-office of that name, and contains 15,000 acres, 3,000 of which is leased to other parties, and under cultivation. This ranch is stocked with 3,000 head of improved Merino sheep; 2,500 head of cattle, and 200 milch cows. Mr. D. has been here for 15 years, previous to that he was for eight years one of the principal flour and grain merchants of San Francisco and one of the first operators there in that line. This farm is well watered by a deep running stream, besides having seven artesian wells, each from 65 to 217 feet deep.

W. H. Souther

is one of the extensive farmers of this county. He leases 5,000 acres on the San Felipe grant, and cultivates 3,500 of the same in wheat, barley, etc., and has it stocked with 1,000 head of cattle, and 300 head of horses. Mr. S. regularly employs from 15 to 30 men. A little of Mr. Souther's experience under this head would not be out of place, he says: "That the last two years has been a trying one in this locality, as well as others; we have tried every method of plowing and sowing, to see which would stand the drouth the best. I find that deep plowing (in this vicinity) after the rains begin to fall, has produced most successful results. I find also that land I sowed 10 or 12 days after plowing, and thorough harrowing, raised some grain; while 20 acres of Norway oats, that I sowed on good black loam and adobe soil, (very low and moist land) and was all plowed and sowed the same day, with the exception of two acres which were allowed to lay 12 days before sowing; to my surprise, the oats on the 18 acres of fresh-plowed land did not head out, while the two acres grew about 16 inches high, and produced 21 sacks of oats; all the above land was precisely the same in quality, and no rain or other moisture fell during that time.

Experiment in Wheat.

The same result (as above mentioned) followed in our wheat land. I had a piece of part low, fine wheat land, and part high,

or upper bench land; I plowed the field before it rained at all, thinking to raise some nice clean seed wheat. I plowed the piece of bottom land twice, and deep-sowed immediately after the plows, it being in the finest condition possible under any circumstances; doubled the harrows, and dragged it with a five-horse clod breaker. When harvest came round, the land that I expected would be sure to yield my nice seed wheat, had to be mowed for hay, when higher land yielded two and three sacks to the acre. And for eight or ten years I have noticed, said Mr. S., that all lands that lay two or three weeks after plowing (especially if a shower of rain falls in the meantime), or even air-slacked, has produced more grain and less weeds, than lands sowed immediately after plowing. "Note."—Will some experienced farmer, through your columns, give Mr. S. a satisfactory reasoning for his experience?

Tobacco Ranch.

Mr. J. D. Culp is the principal and pioneer tobacco raiser of this section; he is farming 52 acres of rich bottom land, 20 of which is in tobacco. His ranch is situated near San Felipe, ten miles southeast of Gilroy. Mr. C. is manufacturing smoking cigars in Gilroy; the latter establishment is superintended by C. B. Ingalls, Esq. The quality of tobacco now being cultivated by Mr. C. is the "Havana" and "Connecticut seed leaf." Eight men find employment in the manufacturing departments. Mr. Culp also raised some of the finest corn I have seen this season, good for 100 bushels to the acre. His Connecticut seed leaf yielded this year 2,000 pounds per acre.

E. A. Sawyer's Ranch,

consisting of 600 acres, is situated near San Felipe, ten miles southeast of Gilroy; all level, and best quality of land. Mr. S. cultivates from 400 to 500 acres, mostly in wheat, barley and corn; from one field of 150 acres (in wheat) 3,000 100-pound sacks were threshed this year; his corn yielded from 80 to 100 bushels per acre, and the stalks grew from 10 to 15 feet high. I guess it is a little the best crop in the county. His stock consists of 1,200 head of fine Merino sheep, 100 head of good American cattle, 50 head of American horses, and 55 fine milch cows; dairying, making butter and cheese.

Fine Yield.

J. F. Freeman, ranching near Gilroy (one mile north), raised this year from 160 acres of barley and wheat, 1,600 centals. From San José in my next. L. P. Mc.

A Ditch for Irrigation and Mining.

EDS. PRESS:—Please allow me space in your valuable columns to call the attention of Capitalists and Ditch builders to one of the most valuable locations for a ditch there can be found in the State. I read almost every day accounts in the papers of the great ditch of the upper and west side of the San Joaquin River, which is to pass through one of the most fertile tracts of country, in a wet season, that can be found in the State; but which from natural causes, receives but little rain in dry seasons like the two past; consequently nothing is raised in such a season.

This ditch being built well back to the foothills, with the gradual slope of the land toward the San Joaquin river, will afford opportunity for irrigating a vast extent of excellent land, thereby converting what has ever been, in dry seasons, comparatively a barren waste, into a perfect paradise of vegetation, which the happy descendants of Adam and Eve might well consider a rival to the ancient garden.

There are also two ditches in process of construction at Lagrange, Stanislaus county. One is being built for mining purposes only, at a cost of a quarter of a million dollars. The other, I understand, is both for mining and irrigation. This is all very well; it will develop the resources of the mines and the agricultural lands in that vicinity, and thus revive the business prospects of Lagrange, which has been at a stand still for years, waiting for something of the kind to turn up.

Now, while this is all being done, I am surprised that a more valuable opportunity, in my estimation, on the Stanislaus river, appears to have been entirely overlooked. Let a company with a capital of \$250,000 commence at a point on the north side of said stream, near a place known as Central

Ferry, ten miles above Knight's Ferry, where there is a very excellent site for building a dam and starting out with a ditch. A dam and two or three miles of ditch were built there some ten years ago; but the dam, not being well constructed, washed out, and the enterprise was abandoned for want of funds. A substantial dam, however, can be built there for \$8,000 or \$10,000. Thence start a ditch six feet wide on the bottom; run down the river, as far back as possible, about five miles, to near Six Mile Bar, passing O'Brian's Ferry; thence tunnel through Table Mountain, emptying into Littlejohn's creek; from thence you have a natural channel for the water, from which it can be diverted to irrigate that portion of Stanislaus and San Joaquin counties bounded by the north bank of the Stanislaus, Littlejohn's creek, Stockton and the San Joaquin river. Her mining resources would be still more valuable than for irrigation.

As the country from the starting point to Six Mile Bar embraces a large amount of mineral ground, from the creek it could be conveyed to the hills above Knight's Ferry by enlarging Spicer & Son's ditch, or building a new one.

There are on the hills around Knight's Ferry, above the reach of the old San Joaquin ditch, and within three miles of town, not less than 1,000 acres of good mining ground that could be easily reached with water from the contemplated ditch. The company should buy out Spicer & Sons to avail themselves of their privileges of Littlejohn's creek and other ditch franchises. They should also buy out the old San Joaquin ditch, from which water is furnished to the town of Knight's Ferry, and for irrigating innumerable gardens and vineyards in the vicinity, some of which are very extensive.

This ditch would be doubly valuable; for at the season when water was not needed for irrigation it could all be sold for mining purposes. I think it could all be accomplished at an expense not exceeding \$150,000 or \$175,000.

There might be an objection raised to embarking in the scheme—as the ditch would have to pass several miles over lands owned under Spanish Grant title, fearing the owners might charge high prices for right of way. But I know a party who holds the right to build ditches and reservoirs on any portion of the Spanish grant lands. Should this meet the notice of any party wishing to make an investment of this kind, my advice is, come and see for yourselves, as the water is extremely low now, affording an excellent chance for accurate observation. CAPTAIN. Knight's Ferry, Oct. 27, 1871.

AGRICULTURE IN MONTANA.

BY OUR OWN TRAVELER.

EDITORS PRESS:—The small but beautiful valley through which Willow Creek runs, is in Madison county, about 25 miles from Gallatin and eight miles from Sterling City. The valley is seven miles long and four miles wide, including the table lands, with a high range of mountains to the southwest, and low foothills on the other side. It contains some splendid grazing land and several fine farms. The stream which passes through it has its banks fringed with willows, beautifying the valley and giving it its name.

The Farms

are located on both sides of the creek, which furnishes an abundance of water for irrigating purposes, and flows into the Jefferson, one of the main forks of the Missoula River. The farmers are all busily engaged in gathering their crops of vegetables, etc. The residents of the valley recently determined to build a two story stone schoolhouse, 20x32 feet, and have it centrally located. It will be finished by spring.

Mr. H. C. Harrison

has the model ranch of the vicinity. It comprises some 32 acres of farming and meadow lands, all under fence. From 40 bushels of spring wheat this year he reaped 876 bushels, and from 60 bushels of Norway oats the yield was 1,722 bushels. This was all raised on table land. The yield of potatoes was very good, 135 bushels from 142 pounds planted. He sowed 23 bushels of the well-known mountain rye which produced from 10 acres 416 bushels; he also cut 50 tons of hay. The stock all looks well; one short-horn bull 18 months old, is the finest I have seen in this part of the country. Mr. H. hangs up a goodly quantity of the largest of his cabbages on nails, in the cellar, the air

having free circulation around them, and by this means they are kept for some time. He bores holes in the stems to put them on the nails. Most all the farmers here have root houses for the purpose of keeping vegetables.

G. L. Dake

has a most beautiful ranch and some of finest land that any farmer could wish for. He raised 116 bushels of oats from 105 pounds sown. A great deal was blown down when heading, or, it is thought he would have reaped from 175 to 200 bushels.

Prominent Farmers.

Mr. Wm. Gay made 4,000 pounds of cheese last year, and sold it at Helena at 25 cents per pound wholesale. He also made considerable butter. Among the principal farmers here are A. W. Paul, J. M. Grant, A. S. Hall & Co., Capt. D. Young and Mr. Allen. The altitude of

The Valley

is not much greater than that of Bitter Root, and the farmers are likely to have their crops injured by frost. At the lower end is a long cañon through which the creek passes and then opens out into what is known as

Lower Creek.

Here are also a number of settlers and all doing well. Among them C. M. Tate and R. W. Reeves. Passing down a few miles we come in sight of

Jefferson Valley,

with the river on its way to the head of the Missoula. On the banks of this river (the Jefferson) are no less than 40 farms and ranches. The average yield of wheat is from 25 to 30 bushels per acre, though in some places 40 and 45 have been raised. Some eight miles from Shed's Crossing, I visited a ranch on the north side of the river, owned by

J. W. Stairley,

who, like all the others, has taken up 160 acres. He informs me that from five acres of land he raised 442½ bushels of common oats. This was put in as an experiment and will do pretty well. He also dug from one Early Rose potato 104 pounds of fine tubers. Apples, pears and quinces thrive well here as they do in all cold countries. Strawberries, gooseberries and currants can be raised profitably. Going still further down the river I arrived at

Madison City.

At this place the Virginia, Helena and Bozeman roads intersect, which will make the place a thriving one at no distant day. A bridge crosses the river at this place, owned by Mr. J. T. Shed, who owns seven bridges in all in this section of country. It is thought that the N. P. R. R. will pass near this place, after coming through Bozeman Pass, as a preliminary survey has been made which crosses the Madison river and goes on up the Jefferson. Mr. Shed has a good hotel here where passengers to Bozeman can remain and wait for the morning stage. The public lands of Gallatin county are being rapidly taken up and the country bids fair to become thickly settled at no distant day.

W. H. M.

Cotton Near Sacramento.

We have been shown some stalks of cotton grown by Mr. Neely on the red clay land about six miles from Sacramento, which were well studded with well developed and open balls of cotton, apparently of good, long and fine staple. Mr. Neely says he has been a grower of cotton in the Southern States and he is satisfied from his experience here that with facilities for irrigation, when necessary, cotton can be made a good paying crop, even on the lands and in the locality designated.

The variety which did so well, was of the Teumpu Upland.

Mr. Neely planted some Egyptian seed at the same time and cultivated it in the same manner, but this kind matured only a few balls and these were comparatively small and the staple short and inferior.

At one time the idea prevailed quite generally that the dry climate of California was unfavorable to the production of cotton, for the reason that the ball would not open well except in a damp climate, like that in the southern States, where the nights are very nearly as warm as the days. Actual experiments by competent growers are exploding the theory and establishing the fact that our climate and soil in many portions of the State are very favorable to the perfect and profitable production of this important staple.

HORTICULTURAL.

SOME TROPICAL FRUITS.

[Written for the Press, by E. J. HOOPER.]

[Concluded.]

Among the fruits which stand highest in estimation in the West India Islands are the various species of *Anona*. The true custard apple is produced by a small weakly branching tree. The flowers are yellowish-green. The fruit is as large as a tennis ball, of a dull brown color. The flesh is soft, sweet, yellowish, or reddish, of the consistence and flavor of a custard. The Sweetsop (*anona squamesa*) is only a bush, or at the most, a small tree. The fruit is a greenish-yellow color, covered with scales, like a young pine cone. When ripe it is of the size of an artichoke. It contains an abundance of thick, sweet, luscious pulp, which is said to taste like that of clotted cream mixed with sugar. The Soursop (*anona muricata*) is the fruit of a moderately-sized tree, common in Jamaica. The fruit is pyramidal, heavier than the largest pear. The pulp is of a soft pithy substance, as white as milk, and of a sweet taste, mixed with a most agreeable acid.

Another species (*anona palustris*) is called the Alligator Apple, the fruit of which is said to be a strong narcotic, although sweet-scented, and of a flavor which is not disagreeable.

All these are now common in the collections of the government plants at Washington.

The *Avacado*, or Alligator Pear (*laurus persea*) is borne by a tree the size of an apple tree. The fruit is the size of a large pear, and is considered one of the most delicious in the world. Sometimes it is called vegetable marrow. The pulp is pretty firm and has a delicate rich flavor not unlike a peach, but infinitely more grateful, although not so sweet.

The *mammee lapeta*, or Bully berry (*achras mammosa*) has a trunk three feet high. The pulp of the fruit is of a sweet and luscious taste. From its resemblance in color to the marmalade of quinces, it is called natural marmalade. This is in the hot-house at Woodward's Gardens, with many other most interesting Tropical fruits.

The Cherries

of the West Indies are the berries of different species of *mali*. They are rather like our cherries in size and form; their taste is pleasantly sub-acid, and they make very agreeable tarts, and excellent jellies.

The Plums

are of no great value. The above fruits are all cultivated on the continent of South America, and some in the extreme south of the United States.

The fruit most highly esteemed in Brazil, Peru, etc., is a sort of custard apple, which they call Cherimoyer (*anona cherimolia*). The flesh is white and sweet. The Creoles think this the best in the country. Baron Humboldt highly esteemed it, yet some think it not to be compared to our pear or plum.

But the Indian Archipelago possesses by far the most curious, the richest, and the most extensive varieties of fruits, of any portion of the globe; although I have heard many travelers say that they would not give up our European and North American fruits for them. But the finest fruits there, as the Durian and Mangustin, cannot be cultivated with success even in parallel latitudes; therefore we need say but little about them. The greater number of the fruits of the East Indian islands grow wild. They probably do not require the richest soils, and they are found planted mostly in a straggling manner about the poor soil near villages; but they require moisture.

Of the Jack fruit (*artocarpus integrifolia*) there are two sorts, the common Jack or Nangka, and the *Champadak*, or *Chapada*. The Nangka is a coarse fruit related to the Breadfruit. It is consumed by the natives in greater quantity than the Banana. The flesh of the fruit of the *Champadak* resembles ripe grapes or strawberries. The fruit ripens on the tree. There are numerous other kinds of fruits; but the one which seems most worthy of notice is the famous

Mango (*mangifera indica*) which though only known by many as an excellent pickle, forms one of the chief delicacies of an Indian dessert, and is considered by most as only inferior to the Mangustin. This is raised already in Los Angeles. There are numerous fine fruits on the continent of India, the Mangustin and Durian are among them.

Of the fruits of China and Japan they consist almost entirely of the same natural orders as those of Europe, or at least approximate considerably to them. They have some immense pears, and of pretty good quality. Of peach trees there are three principal kinds: the dwarf peaches, the peach bushes, and the tree peaches; of each of which there is a variety of sorts. The tree peaches are cultivated for their fruit, the others for their flowers. The fruit is of middling quality. In a few parts they are now very good.

Of grapes there are but few kinds, and their berries are rather small generally. There are two sorts of the Pomegranate worthy of notice, most of them are sweet and vinous in taste.

The Jujube tree (*ziziphus jujuba*) is universal for its fine and excellent fruit. There are more than 70 kinds. This may be seen in Woodward's hot house, with many other Tropical fruit trees and shrubs.

The Kaki (*diospyres kaki*) is a tree that would be likely to repay us for its cultivation. The fruit is the size and shape of an apple, with a reddish-orange colored skin, the flesh has a most agreeable honey-like flavor. There are three varieties of it.

The Longan or long-yen and the Li-tchi; two species of *Dimocarpus*, are held in high estimation, and are cultivated in considerable variety. The trees bear fruit much better from cuttings than from seeds, requiring 8 or 9 years in the latter case, and only 3 or 4 in the former. This fruit has been ripened in hot-houses in England, and in the East here with many others of the before mentioned fruits.

The Loquat (*eriobotrya japonica*) has ripened its fruit often in this State. It is a delicious fruit, brought over here and to Europe often in the China ships.

The Otaheit (*otahaite*) Apple (*spendias cytherea*), is held in some estimation. The fruit is large as a hen's egg. It is easily propagated by cuttings. A small plant of this may be seen at Woodward's Gardens in the hot-house.

Reputation of Our Soil.

The *Journal of the Farm*, published in Philadelphia, alludes, in most flattering terms, to the prolific qualities of California soil in the production of almost any crop. We are aware that we do not yet realize the state of perfection, or abundance of yield, the uncultivated localities are capable of attaining, under a perfect and vigorous cultivation. There are sections still unsettled, valleys and basins of peculiar richness reveling in a climate intensely genial and salubrious. With such a variety of soil and temperature, it will be no wonder if the variety and quantity of our productions challenge the admiration of the world; and to these abundant resources, we invite a substantial class of emigration home-seekers, cultivators, and permanent settlers. There are thousands of acres of rich land awaiting the "seed-time and harvest," valleys and plains of the best grazing land in the world—fertile foothills, refreshed from purest mountain streams, inviting the fruit culturist to their superior advantages; in fact, California agriculturally is not half developed—she has not even tested her powers and capabilities in the way of husbandry—not half of her arable land in use. We are capable of great things—with labor, capital and good citizenship, we shall achieve high rank and reap a wonderful harvest. The *Journal of the Farm* says:—

It would seem as though the soil and climate of California were adapted to the successful cultivation of almost any known crop. The latest intelligence from the Golden State is, that rice can be profitably cultivated on the swamp lands, and that the experiments thus far have been so gratifying that it is proposed to largely extend them next season."

The disaster to the Arctic whaling fleet has caused a considerable rise in whale oil of all descriptions.

Kern County.

Tarantulas, Sheep, Stock, Acorns, Etc.

EDITORS PRESS:—We had a slight shower this morning, (October 28th) the first of the season, or since last April. During a short walk, soon after the shower, I noticed and killed several tarantulas, and observed that they were smaller than usual, not being over half the size they are in mid-winter. They looked as though the dry season had had its effect on them. Noticing that several had something covering their backs and sides, I touched them with a stick, when about twenty young ones, about the size of horse flies, only much thinner, left the old one and ran in all directions. The old one was probably taking them out for an airing. Tarantulas are very seldom seen during the heat of summer; but during rainy and cloudy weather they come out from their holes and are numerous in the foothills of this portion of the State.

We have probably not felt the effects of the drouth in this county, as much as in many other portions of the State, as most of the farmers in the valley expect to irrigate and prepare for it, Kern river affording an abundant supply of water. Hence, our farmers have raised good crops.

There would have been an abundance of feed in the mountain ranges for the stock of the county, provided out-side stock had not been driven in. About 100,000 head of sheep, principally from Los Angeles county, have come into this; and herds of cattle from the upper country, mostly belonging to men having ranches up there too valuable to graze, and so the cattle are sent on to Kern island, where there are about 400 square miles of good bottom land, to pester the small farmer and live on his crops.

As there is a fence law here, and fencing is high and scarce, there is nothing so effectual in keeping the cattle from the crops as lead pills, which are being used to good advantage. I learn that a great many cattle are dying with a fever; having symptoms similar to the hollow horn. When the horn is sawed off matter runs out in large quantities.

People are prophesying plenty of rain this season, but the stock men do not wish to see any for three weeks yet. If it should come now, it would start the feed, which would be apt to dry up before another rain, and it would take the nutriment out of, and rot what little of old feed there is left.

The next six weeks, from this date, will be the worst time on stock, and many are bound to die, as the cattle are very thin now. Acorns are plentiful in the foothills, which helps a great deal. Stock of all kinds are fend off, and fatten on, that kind of feed. It should be borne in mind, however, by people who have the care of stock that if they are not used to acorns they are apt to eat too much to their hurt. The same is true of corn or barley. If stock is taken amongst the oaks before many acorns have fallen, they will get used to eating them and soon can eat with impunity and without hurt.

If the ground is covered when sheep are driven into the range they should not be allowed to eat all they want of them at first; but should be driven away from the acorns, or enclosed, after eating an hour or so. Indians gather and store them up for use, and some portions of the year have but little else to eat. They pound them up and make a mush of the meal; sometimes make it into cake and bake it; in eating mush all eat out of the same dish using the fingers in place of a spoon.

The Indians say we are to have a wet winter. One of their signs is, that the bear makes a deep track or indentation in the ground when walking, caused by their being so fat; putting on the fat for winter use, as they intend to hole up. The last two winters they made no preparation, by fattening up, so did not hole at all. But it is not best to depend too much on signs, rather have the ground thoroughly prepared before sowing, as it pays in a wet season and doubly so in a dry one.

J. S.

Kern County, Oct. 28, 1871.

The bar of silver presented to the Pope by a San Franciscan, has been cast into medals, in commemoration of the Vatican Council.

Tulare County.

EDITORS PRESS:—I have not been able to keep my weather record as full as formerly, but it will be sufficient for all practical purposes, and occupy less space, if I give the average for morning, noon, and evening, which for August was 72°, 101°, 89°; for September, 60°, 92°, 80°; for October, 59°, 82°, 75°. Last Friday night, Oct. 27th, we had our first rain for the season, a shower of less than 1-20th of an inch, and this morning there were very strong indications of a storm, but it has cleared off. We had 8-10th of an inch before this time last year.

Dust Storms, Etc.

This summer has been remarkable for its dust storms, of which there have been several coming up suddenly from the west and lasting from two to six hours; we never had anything of the kind before, since I have been living here; a neighbor says they occurred in the summer of 1857.

Though it has been a very dry year, the valley has produced enough grain by the aid of irrigation on the bottoms, and without it in the foothills, to put the price of wheat down to three cents, and barley to two cents per pound, while vegetables and fruits have been as plenty as usual at the usual price of about two cents per pound. I heard a man who has traveled much, remark the other day that he had never been in a place where so many persons lived so comfortably with so little labor as here.

Cattle Ranching.

One of my friends took up a mountain ranch where he keeps cattle for one dollar per month, or by the year, for half the increase. He has now 150 head—all in fine condition and many fit for beef. At the same time, other men of less enterprise are leaving stock to starve on the plains. Many are reported dead, and the hard time has not come yet. I think this an argument in favor of the No Fence Law. Let the next Legislature give us that, and men will thenceforward keep no more stock than they can provide for, and the land will be cultivated and thus produce more feed, and the settlers will have the thousands of capital now required for fencing, to provide irrigation with.

Irrigating without Ditches.

Having no ditch, we are trying to irrigate from a well 85 feet deep, 72 feet to surface of the water; we used one of Mr. Hooker's admirable lift pumps, worked by horse-power; but it did not furnish water enough, and the pressure of water was so great that it wore out in about two months' use. We have now in use a 1,500-gallon Wilcox Steam Water Lifter, which does all that is claimed for it, and is the next best thing to an irrigation ditch where that cannot be had. By its aid we are now planting, and have growing, potatoes, peas, beets, etc. Will give more particulars about what can be done with it after we have more experience.

We also find the steam boiler connected with it a valuable thing for boiling clothes on wash day, and

Cooking Potatoes, Etc., for Stock.

I bought a steam boiler for that purpose in Pennsylvania and found it very profitable—cooking potatoes for one cent per bushel; but this boiler is much superior for the purpose.

There have been two or three frosts on the bottoms, cutting down potatoes, etc.; but we expect as usual to be clear of them until the middle of December. We are now busy drilling in barley, 25 to 30 pounds per acre, believing this amount of seed to be plenty. If Dr. Dudley, of San José, would write, he could give experience upon this subject which would be valuable to farmers this year when seed is scarce.

ISAAC RUMFORD.

Plano, Tulare Co., Nov. 4, 1871.

JOHN McCAM WANTED.—John left Philadelphia some three years since with the intention of coming to California. His aunt has recently died and left him a small fortune, which he can get possession of by hurrying back, before some other body gets ahead of him and spends it.

THE diamond said to have been found by the Pinal (Arizona) prospectors proved to be quartz crystals.

AGRICULTURAL NOTES.

CALIFORNIA.

HUMBOLDT COUNTY.—The Eureka *Independent*, of November 2d, says: We have taken some little trouble to enquire of the farmers from different parts of the county, and from the best information we have been able to obtain from that source, and from personal observation in portions of the farming country, we conclude that the grain crop of Humboldt county this year will considerably exceed that of any former year. Aside from the fact that there was a great deal more ground put in, the yield has been considerably above the average. The potato crop, however, is not so good as usual, although the number of acres planted this year probably exceeds that of any former year by perhaps one-fourth; the amount to be shipped will not be likely to exceed that of last year, if it equals it. Upon the whole, we think the farmers of Humboldt county will have no reason to complain, as the markets seem to be in a healthy condition, and there is every prospect that produce of every description will command a fair remunerative price.

PEARS.—The *Stars and Stripes*, published at Auburn, has received from Dr. J. R. Crandall a pear twig, thirteen inches in length, bearing ten Foster Beurre pears, weighing twelve pounds, from seven months' growth of a graft inserted the 20th of March last. Dr. C. sent a twig to Ohio, bearing six pears of the same variety, which weighed nine and a half pounds.

PEANUTS.—The Sacramento *Union* says that no less than 1,500 sacks of peanuts, from the upper Sacramento, were shipped to the bay by steamer on Friday of last week, and a like quantity was sent down on Saturday.

ACTIVITY AMONG THE SAN JOAQUIN VALLEY FARMERS.—The San Joaquin valley *Argus*, of Nov. 4th, says: Farmers are busily engaged in putting in their summer-fallow and volunteer crops of grain throughout the county, and a larger area of ground will be put in this season than ever before. The completion of the railroad to Bear Creek is giving a very great impetus to farming, and all who own land or can rent are putting in as much land as they can plow and seed. Merced is one of the best grain-growing counties in the State, and hereafter will produce her full quota of the cereals. No county in the State possesses better advantages for the farmer, and now that railroad communication with the Bay is about to be established, we look forward to a time of great prosperity among our farmers and business men in the near future.

The Stockton *Independent* of the 13th says that a gentleman who paid a visit the other day to the west side of the San Joaquin river, informs us that an immense area of land has been prepared and is now ready for the seed, and that many are engaged in seeding the ground. Notwithstanding the hard experience of the last two years they are laboring with great energy and apparently with the strongest confidence of gathering a reward the coming harvest, that will, in part at least, repay them for the losses sustained. One abundant harvest in the valley would be equal to the product of two years in almost any other part of the world. The farmers well know the productive capacity of the soil when the rains are sufficient to moisten it, and they are working with spirit and in the hope that a favorable season will reward their efforts.

NEW IRRIGATING COMPANY.—The Stockton *Independent*, Nov. 3d, says that the certificate of incorporation of the Merced and San Joaquin Irrigating Company has been filed. Capital stock, \$100,000. The object is the construction of a canal from the Merced and San Joaquin rivers, commencing in township 7 south, range 9 east; township 7 south, range 10 east; township 8 south, range 9 east; and township 8 south, range 10 east; taking up and improving all the sloughs in said townships, and converting them into canals and reservoirs, the said canals and reservoirs running through the San Joaquin valley westward of the San Joaquin river, in a general northerly and northwesterly direction to a point at or near Antioch, at the head of Suisun bay, and such lateral branches to be constructed as may be necessary.

PROFITS FROM SEVEN COWS.—At a late meeting of the Santa Clara Farmers' Club, W. A. Z. Edwards reported that in 1869 he made \$937.23 from seven cows, without counting milk and butter used in the family. He sold butter to the amount of \$634.43, sold three calves for \$53, bred four heifers worth \$200 and fed milk worth

\$50 to chickens and hogs. In 1870 from seven cows he got 1,663½ lbs. butter which sold for \$569.22, bred five heifers worth \$250, sold two calves for \$50, and fed milk worth \$50 to hogs and poultry, making a total of \$919.22. In a communication to the *California Agriculturist* he says:

My farm is divided into four ten-acre lots, which this year, 1871, is as follows: Ten acres orchard, corral, garden, etc., ten acres Norway oats, ten acres volunteer barley, and ten acres pasture. On the farm this season I have kept 25 head of cattle and horses. The volunteer barley was pastured until March 15th, when a portion of the stock, including cows, bull, and three horses, were turned into the pasture, two horses kept in the stable, and the rest of the stock soiled in the corral with green grain and hay until grain was cut and stacked, July the 7th, when the cows were turned into the stubble and young stock into the pasture. In May, some corn and sorghum were planted, which, when about three feet high, I commenced to feed to my cows. When the corn was used up, commenced feeding sorghum, which is still continued, and will be until the frost kills and dries it, when I shall commence feeding squash, which I raise in my orchard regardless of their market price or what it costs to raise them. I think it bad policy or poor economy to sell such produce.

NEVADA.

STEERS.—Henry Taber, of Austin, has arrived at Clover Valley, Elko county, with a drove of 300 or 400 steers, direct from "the States." He will winter in Clover.

SHIPPED TO CALIFORNIA.—Messrs. Smith & Mann, a few days since, shipped 150 head of beef cattle from Mill City, by C. P. R. R., to the market in San Francisco. They have about 500 more ready for slaughter that will be forwarded to the same destination shortly. These famous cattle dealers have several thousand head fattening on their vast extent of range about 80 miles north of Mill City.—*Silver State*, 4th.

The Humboldt *Register* says that 130,000 bushels of grain have been produced in Paradise Valley this year, most of which is wheat. The mills in the valley will be able to turn out this fall and winter 300,000 pounds of flour, enough to meet the wants of the county until another crop is raised. The barley crop is below former years, and sufficient to supply the demand.

OREGON.

LARGE APPLES.—Mr. Cushing of Dalles, recently exhibited a lot of apples raised about 14 miles below the Dalles which measured 24 to the bushel. So says the *Mountaineer*. The same gentleman has some large squashes, the largest of which weighed 78 pounds.

OGHOCO VALLEY.—The same paper learns through Mr. Andy Lytle that everything in that Valley is prospering and that the people there are pleased with their new homes. Two large bands of beef cattle were lately driven from the Ochoco country over the mountains to the Willamette Valley. This is the commencement of what in a few years will be a large and money-making business.

GOOD YIELD OF POTATOES.—Mr. Klint, who lives a few miles below the Dalles on the Columbia river, raised two crops of Early Rose potatoes this season. He purchased 25 pounds of seed which he planted on high ground early in the spring. As the river subsided he dug them up and planted them on land that had been overflowed. This fall he dug up his potatoes and finds that he has over 30 bushels. Who, asks the *Mountaineer* can beat it? Raise 30 bushels of potatoes from 25 lbs of seed in one season.

BIG HOG.—George Myers, of Wapato Lake, says the *Oregonian* has a hog which weighs 1,300 pounds, and is a foot larger in the girth than the big hog exhibited at the State Fair.

WHEAT IN STORE.—The *Herald* says that wheat is being stored in large quantities along the upper Willamette, awaiting transportation. It is estimated that grain to the value of \$2,000,000 is now stored in the warehouses along the river, and that the principal portion of it is intended for shipment to Europe. Judging from this, the foreign trade of this State may be expected to be ten-fold greater within the next year than it has been the past. The *Oregonian* reports 90,000 bushels of wheat in store at Independence, and 40,000 bushels at Buena Vista.

LINN COUNTY.—The *Democrat* says seeding fall wheat is fast progressing in this county. A much greater breadth of land will be sown this fall than last.

BENTON COUNTY.—The farmers of Benton county says the *Gazette*, have commenced

putting in their fall crops of wheat. From all appearances they will raise more grain the coming year than any previous one.

FOR EASTERN OREGON.—For the past month says the *Oregonian* of Oct. 20th the number of emigrant wagons going up on the Dalles boat has averaged three a day. The families which these wagons represent intend settling in Umatilla and Walla Walla counties. The number of emigrants so far, this season, going to Eastern Oregon and Washington Territory is far in excess of any previous year.

A FINE COUNTRY.—D. P. Thompson, says the *Mountaineer*, was lately in town, and informed us that in surveying north of Lewistown, this last summer, he was surprised to find it such a beautiful agricultural country. He says it contains more land adapted to agriculture than is embraced in the entire Willamette Valley, including all its tributaries. He saw whole sections that would average one and a half tons of fine bunch grass hay to the acre. The length of the valley is over 125 miles, and contains millions of acres of land of a superior quality. This valley has now about 700 inhabitants, with new emigrants daily arriving.

COLORADO.

CROP YIELDS IN COLORADO.—Peter Magness, an enterprising farmer near Denver, reports to the Denver *Tribune* that the average yield of his crops per acre last year was as follows: Winter wheat, 37 bushels; barley, 38 bushels; rye, 27 bushels; potatoes, 200 bushels. By extra care and a combination of favorable circumstances, he obtained from four quarts of seed on one-third of an acre, 35 bushels of wheat; from two bushels of black Swedish oats on two acres, 166 bushels; from four bushels of English oats on four acres, 232 bushels; from one acre of barley, 66 bushels; and two papers of English sugar beet seed, sent from the Agricultural Department at Washington, produced at the rate of 174 tons per acre.

MONTANA.

An interesting agricultural letter from Montana will be found on the 3d page of the present issue.

POTATOES are selling in Montana at 30 cents a bushel.

WASHINGTON.

ACCORDING to the annual message of Gov. Salomon, received last week, the population of this territory in 1870 was 22,450 and is now estimated at 30,000, the increase having been large within 15 months. The taxable property is assessed at \$11,500,000, an increase of 2,000,000 since last year. During the last two years, 563,000 acres have been taken up, including 270,000 acres (1,700 farms) under the pre-emption and homestead laws. The public surveys have been extended over 6,000,000 acres, one-seventh of the entire area. The annual exports are valued at \$400,000; the vessels arriving in a year at the territorial ports aggregate 100,000 tons; 98 vessels are owned at towns on Puget Sound; nine vessels were built there last year; and the sawmills saw 130,000,000 feet of lumber in a year.

A TERRITORIAL Agricultural Society was organized at Olympia Washington territory a few days since.

MISCELLANEOUS.

THE eastern country is boasting of mammoth squashes. The Baker City *Democrat* speaks of one weighing 73 pounds. The Winnemucca *Register* has seen one weighing 75 pounds. And now comes the Owyhee *Avalanche*, "raising" its contemporaries by declaring that one is on exhibition in its town which weighs 106 pounds. As the *Avalanche* had the last say it would have been its own fault if it had not told the story of having the largest pumpkin.—*Oregonian*.

ODESSA WHEAT.—The *Western Farmer* published a letter from E. L. Weston, Richland county, Wisconsin, in which he speaks highly of the yield of Odessa wheat. In the spring of 1870 he sowed 1½ bushels, and obtained 32 and one-half bushels. Last spring he sowed 4½ bushels on three acres and obtained 65 bushels. He says, for flouring, the Odessa equals the best winter wheat, both in quantity and quality.

Mrs. PATTERSON, daughter of ex-President Johnson, who graced the White House during her father's administration, took the first premium for butter, at the recent Cleveland County Fair, Tennessee.

At Muscatine, Iowa, grapes are selling at three cents a bushel.

Five thousand acres of the Lake Erie islands, cultivated with grapes this year,

have yielded a crop valued at \$600,000.

Mrs. Stowe will make \$13,000 out of her Florida orange grove.

A farmer of Springfield, Ohio, picked 400 bushels of cranberries from three acres, and sold the lot for \$1,520.

Twenty-four persons dined off of a sweet potato, in Dover, Tennessee, recently.

Heavy frosts in North Carolina have injured the tobacco crop.

Bananas have been grown in the botanical gardens at Washington.

The Value of Acorns.

Perhaps it may not be generally known that acorns command a good price—\$20 per ton—in Stockton, and quite a profitable business has been done by several parties gathering acorns and disposing of them at that price. Our attention has been drawn particularly to one instance wherein an industrious and energetic farmer, who resides in the famine district on the west side of the San Joaquin river, who, during the season, gathered acorns sufficient in amount to realize money enough to pay his taxes and leave in his hands a surplus of \$25, or, as he expresses it "twenty-five dollars ahead of the hounds." For these acorns, gathered from the large trees bordering on the river, and which are said to be of excellent quality, \$20 per ton is a price readily obtained from parties in this city, who use this product for fattening hogs.

The farmer in question prefers to scratch with his own hands and live in the most primitive style rather than accept of assistance from his fellow men. If the wheat crop proved a failure, the acorn yield in his locality has not been short, and a knowledge of the fact that the fruit of the oak can be converted into money, is all that has been necessary to incite this industrious farmer to action in this direction. The truth or incorrectness of the Greek tradition that the oak was the first created tree, and that acorns were the primitive food of mankind, he does not wait to consider, but pitches in to "thresh the wood" and profit by his labor.—*Stockton Independent*.

LAND NOTICE.—Notice has been given that the following township plats were received and filed in the United States Land Office at Sacramento, California, on the 11th inst, viz: Township 7 north, range 7 east; township 14 north, range 11 east; township 14 north, range 10 east. Persons claiming the right of pre-emption in the above-named townships should attend to filing their claims within the three months prescribed by law, otherwise their right of pre-emption will be forfeited upon the odd numbered sections. Within these townships are situated the towns of Forest Hill, Yankee Jim's, Wisconsin Hill, Elizabethtown, Deadwood, and Michigan Bluffs.

INDUSTRIAL FAIR IN EASTERN MONTANA. The first Annual District Fair of the Eastern Montana Agricultural, Mineral and Mechanical Association was held at Galatin city, commencing on Tuesday, Nov. 7th, and continuing five days. We have not yet received any particulars with regard to it.

IRRIGATION ABOUT MODESTO.—The Modesto *News* says that two ditches are to be taken out of the Tuolumne river, two miles above La Grange—one on either side and each to be twenty-five feet wide. When this work is completed, says the Modesto *News*, Modesto will be the capital, of the richest, most prosperous county in the State of California. We shall have farms of positive, reliable value, capable of producing whatever we will, and the Canal Company will have a property of gigantic proportions, which must rather augment than decrease in value, so long as "grass grows and water runs."

THE ORANGE TREE.—Some idea of the orange may be formed from the fact stated by the Los Angeles *News* to the effect that last spring, several orange trees, ten or twelve years old, were transplanted, from an orchard in that city to the Felix rancho. All the limbs, some of them at the time bearing small oranges, were carefully cut off at the ends before taking up the trees. On one of them there are now fourteen oranges, growing from new wood formed since the transplanting.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING OCT. 31.

GOVERNOR FOR STEAM AND OTHER ENGINES.—Charles P. Bowen, Silver City, Idaho Ter.

WARDROBE.—Anna Davis, Reno, Nev.

GANG-PLOW.—James M. Huie and Elisha Card, San Francisco, Cal.

GRAPE-CRUSHER.—Ferdinand B. Schoenstein and August Klein, San Francisco, Cal.

RAILWAY RAIL CHAIR.—Thomas Donahy, Empire City, Nev.

SPARK-ARRESTER FOR STEAM BOILERS.—John Gates, Portland, Oregon.

MILLING MACHINE.—Wm. Hawkins, San Francisco, Cal.

FRICTION CLUTCH.—George W. Hedges, San Francisco, Cal.

APPARATUS FOR LIGHTING GAS BY ELECTRICITY.—John Vansant, San Francisco, Cal.

COMBINED TENT AND COT.—Wm. H. Penrose, Fort Lyon, Col. Ter. Antedated Sept. 30, 1871.

ADJUSTABLE RAIL-JOINT.—John R. Sullivan, Woodland, Cal.

FOR THE WEEK ENDING NOVEMBER 7.

GATE.—David Creighton, Vacaville, Cal.

PUMP.—John Marquis, San Francisco, Cal.

STOP-COCK.—Jacob Radston, San Francisco, Cal.

ROASTING AND TREATING ORES.—John W. Bailey, San Francisco, Cal.

FURNACE FOR ROASTING ORES.—John W. Bailey, San Francisco, Cal.

MEDICAL COMPOUND FOR THE CURE OF RHEUMATISM.—Charles F. Washburn, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible, by telegraph or otherwise, at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

IMPROVED WARDROBE.—Anna Davis, Reno, Nev. The object of this invention is to provide an improved portable wardrobe for clothes, etc., and it consists in a light frame-work oblong and rounded at its ends, and arranged with hinges so as to be opened and closed. A sort of hook and stout eye are fixed, one to a supporting bracket of peculiar construction, and the other to the top of the frame, and by these the wardrobe can be supported from any wall or point desired. The frame-work is covered with cloth, leather, or any suitable material, and the whole can be taken in pieces so as to pack for transportation.

GANG PLOW.—J. M. Huie and Elisha Card, San Francisco, Cal. This invention relates to certain improvements in gang plows, by which the labor of raising the gang from the ground is performed by the team instead of the driver, and it consists mainly in constructing the supporting frame of the plows so as to slide on two inclined planes suitably attached. A rod extends forward from the cross-bar, which slides on these planes and passes beneath the pole, and is so arranged that when the holding lever is released from its rack, the draft will act directly to raise the plows by sliding the bar up the inclined planes.

WHEELBARROW.—Wm. McKibben, San Francisco, Cal. The object of this invention is to provide a wheelbarrow which shall combine lightness, strength and cheapness of construction, and it consists in forming the sides and cross-bars of bar iron set on edge and peculiarly curved at the wheel end so that the wheel is set well under the box and load. This latter condition is also favored by the peculiar construction and setting of the box. The

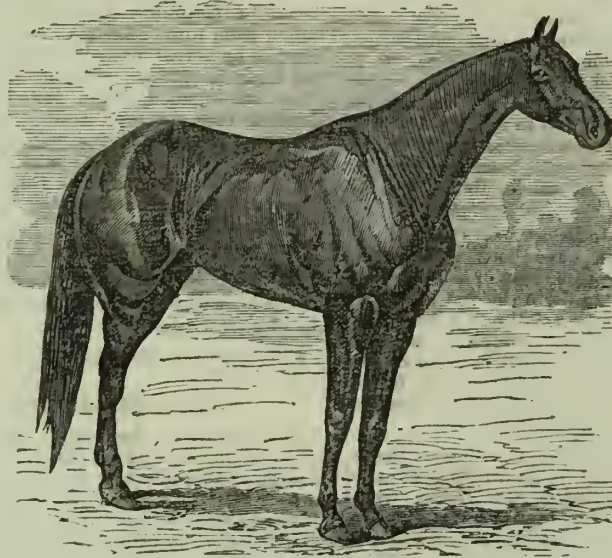
wheel is also of novel construction and is light, strong and easily made.

GRAPE CRUSHER.—Schoenstein & Klein, San Francisco, Cal. This invention relates to an improved machine for crushing grapes and other small fruit and removing the stems before pressing. It consists of a proper shaped box inside which is a cylinder provided with teeth. This cylinder is revolved inside a wire cloth concave which is also provided with teeth at each side. The bottom of the hopper into which the grapes and their stems are thrown is formed of bars similar to a grate, and the teeth of the cylinder pass between the bars and draw the grapes and stems down into the concave. After passing through the concave the stems are caught on an outside shaft and drawn to the outside upon an apron from which they fall to the ground, while the crushed grapes fall between the concave and box and thence to the bottom of the box, where they are passed between the pressing rollers.

Celebrated Trotters.—No. 8.

George Palmer.

Admirers of beauty and action in horses will be pleased with the accompanying spirited portrait of the celebrated trotter



GEORGE PALMER.

George Palmer. He is a light, neat bay horse, pedigree unknown. His action is of the boldest and finest character; he is very fast and bids fair to make a stayer in the best of company. He has already trotted in 2m. 19 $\frac{1}{4}$ s., and will perhaps improve with suitable training, as it is the opinion of the best judges that his speed has never yet been thoroughly brought out. His pedigree is in question, and has been credited to several different sources, but is in so much doubt that there is no assurance of his origin. Certain it is, however, that he is one of the fastest and most spirited goers that ever appeared on any course.

THE PRAIRIE FARMER, published in Chicago, comes to us this week in its old size and form, and appears nearly to have recovered from the disastrous effects of the fire. The proprietors deserve great credit for the energy and perseverance that they have shown, in so quickly getting up their paper in such good style, after almost everything connected with it was destroyed. We take pleasure in inserting in our advertising columns, the prospectus copied from their paper, in order to help our brethren of the press, and that those who desire to contribute to a worthy cause, and at the same time get a good paper, may be able to see their terms and the advantages to be derived from subscribing.

A VALUABLE HORSE, in Grass Valley, this week had a large cancer taken from the socket of the eye. The animal was placed under the influence of chloroform in order to undergo the operation, which lasted an hour and a half, and was conducted upon humane as well as scientific principles. The animal has been blind from the effects of this cancer for several years.

Fair of the Santa Cruz Farmers' Club.

The Farmers' Club held its first Fair at Anthony's Hall, Santa Cruz, on Friday and Saturday, Oct. 27th and 28th. Taking into consideration the short time allowed for preparation, it was a grand success. The great interest which the ladies and citizens took in the Fair, was a source of much gratification to the Club. Much credit is due the lady members of the Executive Committee for the tasteful manner in which the articles placed on Exhibition were arranged.

The Fair opened on Friday afternoon, and closed on Saturday evening, and there was a constant stream of visitors, from the opening to the close. The address of Dr. C. S. Anderson was delivered at 2 o'clock on Saturday afternoon, and was listened to with marked attention. The music was furnished by Prof. R. Walls, and was of a high order. The Club realized \$100, after paying all expenses. The farmers are greatly encouraged with this, their first effort, and next year will hold another on a larger and more extended scale. [Want of space compels us to omit the general enumeration of exhibits and exhibitors, which has been furnished by our correspondent.—Ed.]

The display of apples and pears, was exceedingly fine, and proves that Santa Cruz

Dangers of Coal Mining.

The coal miner, the veteran of the mineral world, whose origin dates back many years in the world's history, is more subject to danger, day after day, than perhaps men of any other calling. He struggles against the multifarious dangers of the mine, and combats, hand to hand, the elements of the ancients—earth, air, fire and water—all of which are in conspiracy against him. The air, by becoming mixed with explosive vapors; fire, in blasting, in the firing of the coal and in explosions of fire damp; the earth, in caves; the water, by inundations. All these are to be opposed by the intrepid courage and practical science which tend to make the skilled miner.

Fire is the most terrible enemy which the collier has to contend with, especially when caused by "fire damp"—a combination of hydrogen and carbon—which, when mixed with atmospheric air, becomes explosive. In this state it often causes fearful destruction—burning, overthrowing, destroying and killing everything in its path. The men are blinded and scorched, and the effects are the same over every part of the mine where the explosive gas is present. Sometimes the walls and roofs cave, and, to add to the horrors of the situation, carbonic acid gas, after the explosion, spreads through the mine, and those whom the work of destruction has not already killed, generally terminate their existence by suffocation. An old miner who has experienced one of these fearful explosions, and who fortunately came off safely, thus describes his situation and feelings:

"As soon as the explosion occurs it drives like a whirlwind and with force enough to carry any weight before it in the direction of the nearest vent. In going it sweeps along the ceiling, tearing away props, brattices and everything else, even the pillars of coal. The unfortunate miner who may be within its influence, instinctively throws himself flat upon the ground. Before he can rise the gas has encountered the body of air moving in an opposite direction. They come together with an elastic shock, sufficient to change the direction of the gaseous tornado, and back it comes with a rush, lifting the miner and flinging him probably a distance of 50 feet against the ragged coal. Behind again there is a shock of pure air and foul, and again the gas whirls back with undiminished fury, lifting the miner once more and dashing him back whence he originally came. Again and again this terrible game of bat-tledore is repeated. Nothing can resist its impetuosity. Meanwhile the terrible after-damp accumulates with surprising rapidity. This is composed of the black damp which hangs from the roof and the white damp which gathers along the floor. It joins the gas at every rush, and adds power and volume to its fury. The helpless miner struggles with superhuman strength to resist the buffetings of the mine-fiend, but now the damp begins to seize upon his senses. The sensation is not unpleasant. He feels slight dizziness; he becomes weak and sleepy; he staggers; his knees lose all their power and he falls."

TIME is the earth's attribute, and as the earth leisurely and regularly renews her drapery of foliage and flowers, so she re-constitutes the forms of her surface and moves her continents and seas from place to place in the long lapse of ages, to which the life of man is but as one undulation separated from the myriads of luminous waves which are required to impress us with a sense of solar force.

THE EARTH'S CRUST.—Professor Thompson has endeavored to prove to the British Association that no thickness less than 2,000 or 2,500 miles would enable the crust of the earth to resist the tide-generating force of the sun and moon. A thinner crust, he says, would be bulged up by a tide within the molten mass like the tide of the ocean.

LONDON papers announce the death of Mr. Thomas Pilgrim, aged 71 years. Mr. Pilgrim acted as chief engineer of the Archimedes, the first ship ever sent to sea propelled by the screw.

county is one of the best fruit-growing regions in the State.

The display of grapes by D. C. Feely, G. M. Jarvis and J. Francis, was the greatest attraction of the Fair, and good judges say that it was the finest ever made in this State.

There was quite a large display of paintings and engravings.

It is impossible in a report like this, to enumerate all the articles placed on exhibition. It is to be regretted, that the short time allowed to get ready for this Fair, did not permit our farmers to prepare some of their fine live stock for the Exhibition. This will be remedied another year.

Meeting of the Club.

The Club met at the office of the librarian on Saturday afternoon, Nov. 4th, at which time Mr. Conant, the Superintendent of the Fair made this report. The club then resolved to hold another Fair in September, 1872. Mr. Locke explained the advantages which his gate possessed over others as a farm gate.

The President announced that at the next meeting, the election of officers for the coming year would take place. A resolution of thanks was passed to E. Anthony for the use of his hall, to the ladies who had assisted in arranging the articles for exhibition, to the ladies and gentlemen who had contributed articles, and to Prof. R. Walls for the music.

"Grape culture in Santa Cruz county," was selected as the subject for discussion at the next meeting. The Club then adjourned to the 2d Saturday in November.

LONGITUDE.—Preparations are being made to determine the longitude of Columbus, Ohio, by noting the difference of time between that city and the Cambridge Observatory, by electric signals, as was recently done between that Observatory and San Francisco.

USEFUL INFORMATION.

Spontaneous Combustion.

In March last, a well-known Detroit chemist, assisted by two seriously inclined and science-loving gentlemen, resolved to make a number of experiments to test the worth of the talk about spontaneous combustion, and their experiments are well worth the attention of every reader.

They first took a piece of cotton cloth, which had once formed a part of a sheet, and which had been used until quite threadbare, and smeared it with boiled linseed oil. An old chest was placed in the loft of a store-room back of the drug store, a piece of zinc over it, another piece under it, and then the chest filled with paper and rags, and this particular piece of cloth placed in the center. Although the room was not a light one, and the weather cold, in eight days there was such a smell of fire about the trunk, and the chances were so good for a conflagration within it, that the contents were emptied.

An examination showed that the fibre of the oil-cloth had untwisted and shriveled up, and that the rag looked as if it had been held too near a hot blaze. In April, when the rays of the sun were stronger, a pair of painter's overalls, literally covered with paint and oil, were rolled up, a handful of pine shavings placed inside, and these were crowded in next to the roof boards of the loft. The experiment was not a week old when, during one warm afternoon, a smell of smoke alarmed a workman in the next room, and he found the overalls burning, and so tinder-like was the cloth that it had to be crowded into a pail of water to prevent total destruction.

During the hot weather of August, a handful of old cotton rags, in which two matches were placed, but which were not smeared with oil or other matter, were shut up in a tin box, and hung up in the loft, a rear window allowing the afternoon sun to shine directly on the box for several hours. Toward the close of the fourth day the chemist took down the box to see how the experiment was progressing, and found the contents to consist of nothing but a puff of black cinders, which flew all over him as the lid was lifted. Having a vacant corner in his brick wood-house at home, the chemist took the trunk up there, where there was no danger of burning a building. He filled the trunk with the contents of the paper rag-bag, and then smeared one with benzine and threw it in last of all. The trunk was shut tight, everything cleared away from its vicinity, and he commenced watching. One day the family came home to find a few ashes marking the place where the trunk stood, while the bricks above and around were badly stained with smoke.

ARTIFICIAL RAIN.—In England, where experimental agriculture is carried to an extreme almost unknown with us, the inventions of methods of irrigation have been very ingenious. At Stoke Park a tract of twenty acres is irrigated by artificial rain, the system being quite successful. The water was applied every night last summer in showers, excepting when natural rain made it unnecessary. The apparatus consists of pipes laid in the ground, supplied from the elevated reservoir, into which water was pumped by machinery. The financial exhibit made by the results of the experiment is said to be a good one. The interest on the money invested in the necessary machinery, and the cost of operating it, aggregated \$95 per acre for the entire tract of twenty acres. Likewise the income per acre aggregated \$200, being made up of the proceeds of one crop of grass and grazing in the autumn of 1870, and two crops of hay in 1871. The net profit was thus \$105 per acre. On land of the same tract and same character, used for the same purpose, but where the irrigation was omitted, the net profit per acre was but \$45.

The active principles of many plants are found to be more concentrated under the slower growth of cold regions, where the vegetation is less luxuriant than in warm climates; thus tobacco grown at the North is stronger than that raised at the South, and the same is said to be true of celery.

MR. A. R. WALLACE, who lived for years in the East Indies, says that the popular notions of the gorgeousness of tropical vegetation are incorrect; flowers being less effective in lending color to the landscape than in temperate climates, since they are fewer in proportion to the mass of mere foliage.

Paper Clothing.

The uses to which paper is applied are constantly multiplying, until it is now made serviceable in nearly every department of manufacturing industry. The paper collar was considered an ingenious novelty when it first appeared, closely followed by cuffs, frills, etc., of the same material; but the attempt to apply the same principle to the production of other articles of raiment was for a long time unsuccessful. An English inventor has at length, it is said, surmounted the difficulties of the case, having produced a fabric from which all sorts of clothing for the person and for beds, as well as numerous articles employed in furnishing an apartment, can be made at small expense and of a very durable character. The paper thus used is made from a pulp composed of wool, silk, hemp, cotton, flax and jute, which is subjected to bleaching and felting, and a fabric thus obtained on which a strong seam can be made with the same facility as upon the cloth. Shirts, skirts, pantaloons, tablecloths, blankets, etc., are made of this material, possessing such toughness and flexibility as scarcely to be distinguished from linen or cotton cloth. The process is new to the European and American markets, but a similar art has been long in use in China and Japan, where a paper coat which will stand a reasonable amount of wear can be bought for ten cents, and a whole suit for twenty-five cents.

Wooden Nails.

In these days of millions of iron, copper and zinc nails, tacks and brads; of lightning, self-feeding, and almost automatic nail machines, it is wonderful to find wooden nails coming into use. Yet that such is the fact, the *Shoe and Leather Reporter* informs us. Wooden pegs, made by the same machines as shoe pegs, are now largely used for fastening boxes, and manufacturers receive large orders from the West, for inch pegs for this purpose. In China, Japan and Hindostan, pegs of bamboo have been always used in fastening tea chests and other wooden packages. In this age, however, it looks like retrogression to use wood for purposes for which iron seems so much better adapted. As one of the curious freaks of the habit, so inherent in human nature, to return to former customs under the impression that they are novelties, the above is noteworthy, but we do not anticipate a fall in cut nails from this cause.

PATNA KIPS.—The uninitiated may thank the *Shoe and Leather Reporter* for the following definition of the term "Patna Kips," so often seen in trade quotations: "Patna kip is the hide of a two-year old steer or heifer, and is supposed to be anything in the shape of a hide weighing less than 16 lbs., the average weight being about 10 lbs. When properly tanned and dressed, these hides make fine leather, ranking next to calfskin. A patna kip hide, as a general rule, comes to market salted. These hides are shipped to his country at Calcutta, and are the produce of the Province of Bahar, in Hindostan. Their distinguishing marks are difficult to give, but experts readily recognize them. The dead green is the hide taken from the carcass after it has died on the plain. The difference in price between the slaughtered Patna and the 'dead green' is about 21 cents per lb."

SOME recent experiments at the Philadelphia High School developed the fact that when a strong solution of phosphorus in bisulphide of carbon is poured upon finely powdered chlorate of potassa, resting on paper, and the mixture is exposed to air, upon the evaporation of the bisulphide of carbon, the phosphorus being left in a very finely divided state, intimately mixed with the chlorate of potassa, the mixture presently explodes spontaneously, with a loud detonation.

GOBELIN TAPESTRIES—DELICACY OF THE EYE-SIGHT.—The various colored wools used in making the celebrated Gobelin tapestries are arranged at the manufactory according to their shades. These shades are 28,000 in number; and, as an example of the power and delicacy of human eye-sight, it is said when two of the approximate shades are compared, the eye distinguishes them with facility, and perceives the interval which separates them.

A PAPER on Ancient Dentistry, presented to one of the scientific associations not long ago, showed that gold was used by the Romans for filling teeth, and for holding artificial teeth, five hundred years before the Christian era.

GOOD HEALTH.

Medical Philosophy.

It is a matter of regret, says a correspondent of the *Boston Journal of Chemistry*, that in the regular profession of medicine there is no system of medical philosophy. We have a vast accumulation of facts, the result of the most careful and scientific observation and experiment, and a certain amount of deduction as the result of investigation, but no comprehensive philosophy, to govern the physician in his treatment of disease.

It is believed that medical art has kept pace with other improvements, for which this century is so remarkable, and what is to be the progress in the future no one can predict; but no one can doubt that it will make even greater advances than in the past.

The want of a comprehensive medical philosophy to which I have alluded, may not be recognized by a physician already established, but to the young man just commencing practice the want of such a guide must be keenly felt.

The homeopath has a simple philosophy in the words *Similia similibus curantur*, and while it captivates many intelligent people, a large majority of physicians do not believe it to be true, and are incredulous as to the capability of matter to be subdivided to the extent claimed by their practice.

If the medical profession are ever to have a medical philosophy which is true, it must be the legitimate deduction from facts, and with a view to take the first step in the desired direction, you will permit me to announce a single principle by which I have been governed during a somewhat extensive practice.

It is well known by physicians that the human body is composed of quite a number of substances, such as albumen, globuline, fibrine, caseine, and keratine, among the proteine compounds; gelatine, chondrine, fatty matter,—organic acids and inorganic acids, etc.; till we come to the metallic bases: potash, soda, ammonia, magnesia, iron and manganese. Now in medical practice I never give, under any circumstances, any mineral either in the form of a salt, or a compound that does not enter into the human organization, as it would become a foreign substance incapable of assimilation, and therefore poisonous to that extent—or at least a foreign body. On administering an organic substance, or any of the minerals which constitute a part of the human system, there is a provision to discard or eliminate what is not wanted—if in excess of requirements.

But if you give lead or mercury, copper or silver, zinc or tin, there is in nature no arrangement to eliminate it from the system.

Physicians deplore lead or zinc poisoning; why then should they give the salts of either to produce a temporary action, regardless of subsequent effects? Every conceivable drug has been recommended for every known disease, but if the physician would adopt the simple rule I have indicated, he would have the satisfaction of feeling that he had at least done no harm to his patients that would return at some future time to torment him.

BROMIDE OF POTASSIUM IN TAPE-WORM.—An interesting case of tape-worm is reported in the *Buffalo Medical Journal* as being cured, after all the ordinary remedies had been employed ineffectually, by taking bromide of potassium, in twenty-grain doses, every four hours. After continuing the bromide for three days, and taking half an ounce of the spirits of turpentine, and soon afterwards two ounces of castor-oil, a perfect cure was effected. Two hundred feet were passed from the first medicine, and in a few weeks afterward, after repeating this treatment, fifty feet more were passed, at which time the head was voided. Since that time the patient has rapidly improved in health, and has not been troubled with parasites.

TURPENTINE IN HEADACHE.—Dr. Warburton Begbie (*Edinburgh Medical Journal*) advocates the use of turpentine in the severe headache to which nervous and hysterical women are subject. "There is, moreover," he says, "another class of sufferers from headache, and this is composed of both sexes, who may be relieved by turpentine. I refer to the frontal headache, which is most apt to occur after prolonged mental effort, but may likewise be induced by unduly-sustained physical exertion,—what may be styled the headache of a fatigued brain. A cup of very strong tea often relieves this form of headache;

but this remedy, with not a few, is perilous, for, bringing relief to pain, it may produce general restlessness and—worst of all—banish sleep. Turpentine, in doses of twenty or thirty minims, given at intervals of an hour or two, will not only remove the headache, but produce in a wonderful manner, that soothing influence to which reference has already been made."

HASTE AND HEALTH.—It is not at all wholesome to be in a hurry. Locomotives have been reported to have moved a mile in a minute for short distances. But locomotives have often come to grief by such great rapidity. Multitudes in their haste to get rich are ruined every year. The men who do things maturely, slowly, deliberately, are the men who oftenest succeed in life. People who are habitually in a hurry generally have to do things twice over. The tortoise beat the hare at last. Slow men seldom knock their brains out against a post. Foot-races are injurious to health, as are all forms of competitive exercises; steady labor in the field is the best gymnasium in the world.

Either labor or exercise carried to exhaustion, or prostration, or even to great tiredness, expressed by "fagged out," always does more harm than the previous exercise has done good. All running-up stairs, running to catch up with a vehicle or ferry-boat, are extremely injurious to every age, and sex, and condition of life. It ought to be the most pressing necessity which should induce a person over fifty to run twenty yards. Those live longest who are deliberate, whose actions are measured, who never embark in any enterprise without "sleeping over it," and who perform all the every-day acts of life with calmness. Quakers are a proverbially calm, quiet people, and Quakers are a thrifty folk, the world over.—*Dr. Hall.*

CUNDURANGO.—The Chicago Pharmacist gets after the new cancer remedy as follows: It can hardly fail to cause the heart of the American pharmacist to bound for joy to know that Dr. Bliss, from blissful Washington, has announced the blissful intelligence that a cargo of Cundurango has arrived in New York, which will be furnished to the profession at the highest possible prices. "See, the conquering hero comes!" The very name Cundurango has a high and mighty conquering sound—sweetly blended of High Spanish, Guinea Nigger, Fiji, and Whang Doodle. Dr. B. has taken steps to Helmboldize the drug at once. We will soon see it marching on across the Continent, side by side with the other heroic names which, by the magic of paint and cheap blacking, blazoned on every bridge, fence and crag, from the Atlantic to the Pacific, have been stencilled upon the great American heart.

COLORS CANDIES.—Some months since a great variety of the candies sold in New York were analyzed by Dr. Endeman, Assistant Chemist to the Health Department of that city, and reported in the *American Chemist*. Reds were either carmine or aniline-red (both harmless). Blues were either ultramarine or Prussian blue (also harmless). Yellows were either saffron, chromate of lime, chromate of baryta, chromate of lead, gamboge, or vegetable colors. Of ten samples five were colored with chromate of lead, and one with gamboge, both poisonous. Greens were harmless, so far as examined. Starch sugar is a common constituent of some kinds of candy, and starch is often substituted for gum arabic. In two cases gypsum was found, 3 and 6 per cent.; no other inorganic adulterations were detected.

THE SEWING MACHINE AND HEALTH.—Dr. E. Decaisne has reported to the French Academy of Medicine, as the result of his observations upon 661 operators upon sewing machines, that the injurious effects from using this machine are in nowise greater than are produced by any other muscular effort—only injurious when excessive. The machines with uniform pedals, however, are considered preferable to those alternating. He says that when women use sewing machines within reasonable limits, they are no more injurious than sewing with the needle. In twenty-eight women, between eighteen and forty years, working three or four hours a day, he could discover no ill effects attributable to their labor.

A concise list of "infallible remedies" is given as follows: "For coras, easy shoes; for bile, exercise; for rheumatism, new flannel and patience; for gout, toast and water; and for the toothache, a dentist."



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SAN FRANCISCO:

Saturday, Nov. 18, 1871.

Our Weekly Crop.

The Planting Season having fully arrived, our farming captain has been carefully considering The Comparative Advantages of Drilling and Broadcast Sowing of Wheat, and to further fortify his opinion in favor of the former, has prepared an illustration faithfully exhibiting the appearance of the growing grain under both conditions of cultivation, and for which he has been remembered in the Award of Gold Medals.

After noticing some interesting discoveries in Scientific and Mechanical Progress, we turn to our correspondence which we find quite varied and interesting. We have Notes of Travel in Santa Clara County, a Letter from Montana, another about Ditches and Irrigation, and Mr. E. J. Hooper tells us something about Tropical Fruits, while others write us from Kern and Tulare counties. This brings us to our usual Agricultural Summary.

Here we pause for a moment to consider the last batch of Patents issued to California inventors, and examine a new Trotting Horse which we have added to our stock, and then hurry on to gather up a few Useful Hints and Health Notes. The appearance of The Seed Season renders timely a few hints on the cultivation of Alfalfa and the Want of Fruit Trees in Utah. Here some one reminds us that the RURAL is Just the Paper Wanted to tell us all about the nature and danger of Spontaneous Combustion, the extraction of Sugar from Grapes, the Sacramento Beet Sugar Factory, and the best Horse Power for the varied use on the farm.

We here meet our lady friends with an interesting story about Theodore Mills, and many other matters of useful interest to both old and young whether in the Home Circle or in the more practical department of Household Economy.

Turning again to the farm, we are much interested in the examination of a large importation of Blooded Stock for Oregon, which argues well for the material progress of our energetic and thriving neighbor. Our attention is next called to a remarkable California plant—the *Darlingtonia Californica*, to the consideration of the Water Question, as connected with the tule lands, and to some short items of News in Brief, which we introduce as a new feature, before passing to the usual weekly examination of the Produce Market, etc.

THE WEATHER—RAIN-FALL.—A light rain commenced falling in this city on Tuesday evening last, which shortly after changed to quite a copious shower, and continued at intervals throughout the next day. A little over one-third of an inch fell, making six-tenths of an inch in all to the present time, for the season—about equalling the quantity of last year up to this time. The rain was general throughout the State, north of Los Angeles, where, up to Thursday morning, none had fallen, although the indications were then favorable.

The Seed Time.

The harvest is past and the seed time for another year is at hand. "As ye sow, ye shall reap," is a very old saying, and yet it is just as true to-day, and in California, as when it was first promulgated. We apply this saying literally to the agricultural and horticultural operations of planting or sowing seed, and gathering the product. If you would reap a good harvest, you must sow well.

Good Seed.

The first great requisite to success in gardening or farming, is to plant good seed. "Like produces like," is as much a law of vegetable as of animal production. It is true that by very careful cultivation for a long series of years any of the products of the garden or farm may be very materially improved. It is also true that this improvement can be made much more rapidly by being careful at each successive planting, to select only the very best seed—the best kernels of corn from the best ear—or the best sized and best shaped potato from the hill, for re-planting.

It is also equally true that by an opposite course the opposite result will follow. If the poor kernels of corn and the poor and ill-shaped potatoes be planted, the succeeding crops will each be poorer than its predecessor. In this sense it is that "like produces like," and recognizing this principle in production, all good and thrifty cultivators are very careful to select the best seed for planting they can find. Not only this, but it has been found by experience that a change of seed from one locality to another, tends to improve the crop. Hence successful planters very seldom plant corn, wheat, or any other seed grown by themselves more than twice in succession.

Acting on this well-established principle the different nations have, through their agricultural organizations, instituted systems of exchange of seeds from one country to another, with most excellent results. So while it is well for all farmers and gardeners to make it a point to produce seed of all their different kinds of crops, they should make exchanges frequently with their neighbors and friends. The reason why this practice is attended with good results, or the contrary practice with bad results, is undoubtedly found in the fact that Nature abhors "breeding in and in," as well in the vegetable kingdom as in the animal.

The Time to Sow.

Upon this subject Nature is undoubtedly the best guide. Man has but to study the annual operations of Nature and follow them as closely as possible to succeed in this respect.

The Americans found a large portion of this State covered with wild oats which annually reproduced themselves. When ripe, the seed fell upon the ground, which was generally filled with small cracks and crevices produced by the heat of the sun drying the surface. In these cracks the grain lay until the first rains closed the earth or soil around it, and quickened the grain into life. The grain being warm the sprouts came rapidly up and made a good growth during the favorable weather of the fall and succeeding winter. The roots during this time penetrated and obtained a good hold of the soil, so that when the warm dry weather of the following spring came upon it, it was beyond the danger of the drouth, and almost invariably produced a good crop. Following the lessons thus taught by Nature, many of our most successful farmers have adopted the system of summer fallowing the most of their grain land and sowing their seed and cultivating it before the rains commence. This is undoubtedly the best plan for all varieties of small grains that mature early in the season, such as wheat,

barley and oats. In warm growing seasons and upon deep, rich soils, when there is danger that the growth of straw will be too large and fall down, stock may be turned on the grain before it is too high to eat it off and keep it back.

The same reasons that apply in favor of the early planting of the small grains, apply to the planting of many varieties of vegetables, the tops of which are not injured by the frost and which mature much more perfectly in the cool weather of the rainy season and early spring than later in the summer. We will notice these and the modes of their cultivation next week.

ALFALFA.

In answer to our correspondent J. T. W., and for the information of our readers generally, we give below some directions as to the manner of sowing and cultivating this important grass.

Time of Sowing.

There is much difference of opinion among those who have had experience in cultivating this grass, as to whether the seed should be sown in the fall, or spring. Our experience, and we have had considerable, besides an extensive observation, is, that if the fall is favorable—that is, if we have early fall rains followed by warm growing weather, it is much better to sow in the fall. If, however, the rains hold off late, and the weather is cold and frosty, like the present season, then it is better to wait until a favorable time in the spring. The reasons are very plain, and are these: If the rains are early and followed by warm weather, the young clover will get a sufficient start and the roots will penetrate the earth to a sufficient depth to withstand any cold and frosty weather that will be likely to follow, and the clover will grow all winter, or through the rainy season, and be sufficiently forward to mow the first time in May, or the very first of June. Under these circumstances all things being favorable, three crops of hay may be taken from the land the first year; or, what is generally better, two crops of hay and one of clover seed. By allowing the last crop to mature it may be cut for seed and threshed with a machine like wheat or barley, and the straw and chaff will still make good fodder for cows or sheep. Under circumstances as indicated above, it will be better to sow the seed alone, as by so doing the land will be better economized, than if wheat or barley were sown with it.

If on the contrary, the rains hold off till late, and the weather be cold, the small clover if sown in the fall—if it start up at all—will be most sure to be killed out by the frost, and the seed and use of the land for that purpose will be lost; but should any one conclude to sow his clover seed in the fall, notwithstanding the unfavorable weather, then it will be safe to sow wheat or barley with it. First, because if the clover does not come up, he will still make a crop of grain, and second, that if the clover seed does start then the growing grain will cover and protect it while small and will thus be a benefit to it.

Spring Sowing.

If the seed is to be sown in the spring then it should be sown early—just as soon as the danger from frost is past so that the roots will penetrate the ground sufficiently deep to withstand the blasting north wind and dry hot sun. There was but very little Chili clover sown last fall or spring, that was successful, for the reason that although much of it came up well and promised a success; we had an early dry and hot norther, followed by continued hot and dry weather, which effectually dried it up and killed it. We had fifteen acres that came up as well as we ever saw any, and had got three leaves on it, and then was ruined in this way.

We believe that for spring-sown alfalfa, it is generally better to sow a light crop of wheat or barley with it to protect it from these winds and drying hot sun.

Preparing the Ground.

Whatever be the nature of the soil, it

should be plowed deep and well pulverized and rolled level before the seed is put on. Then if you can take time and sow it just before a good rain, the seed need not be dragged or cultivated in, as the rain will do this part of the work sufficiently. But generally it will be safer after sowing to run the roller over the land the second time, or drag a light brush over it.

Quantity to the Acre.

Twenty pounds to the acre is generally considered sufficient, but as this kind of grass is better for hay if grown thick on the ground so as to make the stems small, we would recommend to put on about twenty-five pounds.

Fruit Trees Wanted in Utah.

EDITORS PRESS:—Almost everything pertaining to agriculture that has been attempted in California, out of the usual and stereotyped track of grain-growing, has, from time to time, been entirely overdone, the product paying but little more than the cost of production; I have lived there, and know something about it.

Nearly all the fruits, from strawberries up to peaches, apples and pears, have been at times so plentifully produced, as to completely glut the market.

The effect has been to discourage production, and this necessarily carries with it a decline of nursery stock; for no one will continue to raise trees, unless there is a market for them. But it would seem that your nurserymen have overlooked the fact, that the settling up of the great interior basin of the continent will, and does now, open up a wide field for the dissemination of all the more hardy fruits of this latitude.

We must have, in all our valleys, orchards of apples and pears; we must have the strawberry, currant and blackberry; we must have the cherry, and if we cannot procure them in California, we must and will send East for them, for have them we will; and the increase of population in this interior and, to a great extent, mining region, will carry with it a continually increasing demand for these fruits.

At least fifteen thousand apple, pear and cherry trees are wanted in this one valley for orchard planting the coming spring; but not a single nursery do we know or hear of in all California.

Will you have the kindness to make inquiry, through the RURAL or otherwise, if such a property as a nursery of fruit trees exists in California at the present time, within easy railroad communication.

The RURAL is our oracle for useful information in ranch matters, and its reading an indispensable winter fireside pleasure.

C. T.

Paradise Valley, Utah.

Our correspondent is greatly mistaken, if he supposes there are no nurseries of fruit trees in California; for there are many here. But whether the proprietors wish to dispose of their stock, we are not informed. They certainly do not appear disposed to advertise their desire to do so.—EDITOR.

Just the Paper Needed.

EDITORS PRESS:—By mere accident I recently stumbled upon your paper at a neighbor's, became interested and took it home with me, and was satisfied it was just the paper needed in this valley. While climate, soil and seasons here differ widely from those of the Atlantic States, we need the earnest and intelligent application of all good theories and experiences of our Eastern friends. Many of us are novices in agriculture, and anxious to learn; many, too many, are from those portions of the Western States where all kinds of farming is very poorly done. This class, I am happy to say, are fast giving place to a better one, who, from a close observance of the laws of cause and effect, and by information derived from your valuable journal, hope in time not only to make our valley one of the most beautiful, but the best cultivated, on the Pacific slope. I shall do what I can to increase the circulation of your paper among us, and I hope to get some of our most experienced vinticulturists to give you an item now and then. Yours, etc., W. R. D.

Sonoma, Nov. 9th, 1871.

Spontaneous Combustion.

May not the late destruction of the schoolhouse in Binghampton, Solano county, and the Harpending block in this city, both be attributed to spontaneous combustion?

Our attentive Binghampton correspondent, R. H. Barkway, asks for some information about "spontaneous combustion," the immediate cause of the query being in consequence of the recent destruction, by fire, of the Binghampton schoolhouse, whereby a loss of some \$1,200 was incurred. There had been no fire in the house for a week, and we infer that spontaneous combustion is suspected as the origin of the fire from the following paragraph in the note of our correspondent:—

"Will woolen or cotton cloth or rags saturated with linseed oil *though small and only three pieces*, ignite, if thrown together in a room. If so, how many hours might it take and under what conditions?"

In reply, we would refer to an article under the head of "Useful Information," on page 311 of the present issue, which was in print before we received our correspondent's note, and from which it will be perceived that spontaneous combustion, under such circumstances, *may take place*.

The phenomena connected with spontaneous combustion seem to be pretty well understood, and might be easily prevented if persons entrusted with commodities liable to self-ignition would only carefully attend to their business. The destruction of the Liverpool trader, Red Jacket, of 1,463 tons, on her way from New Zealand with a cargo of wool, at the time drew the marked attention of the English public to the liability of that article, under favorable circumstances to ignite spontaneously. The loss in that instance was some \$1,000,000.

We have thought from the first that the late fire in this city which destroyed the Harpending Block, involving a loss of \$1,000,000, was the result of spontaneous combustion. If we mistake not, the fire was first discovered at a locality in the block where linseed oil and cotton waste of various kinds would be likely to be brought together under precisely the conditions which the Detroit experiments prove may cause self-ignition.

We have no doubt that many fires, the causes of which have been reported unknown have originated in the manner above indicated; and it is a matter of no little surprise that our insurance companies and citizens generally, do not pay more attention to the matter, and devise some means, either by spreading more widely the necessary information on the subject, or in some other way seek to avoid the danger referred to. The newspapers of the country by publishing, with comments, the article referred to on page 311, might do much good in this direction.

"KEY TO THE TIDES."—We are of the opinion that the article under the above title, which we have been requested to publish, comes far short of unlocking the knotty questions with regard to the phenomena connected with the tides, which ever have and still continue to puzzle the scientist.

AXLE GREASE RECEIPT WANTED.—"State of Nevada, Nov. 11th, 1871. Eds. RURAL: I am a subscriber to your paper, and I see many valuable receipts in it. I would like to get one for making axle grease. Can you send me a good one? s. s."

If we are not mistaken we gave one some three months since; but cannot refer to it just now. We should be pleased to hear of a good one from some of our readers.

DRILLING WHEAT.—Our Woodland correspondent, will find an article on the first page of the present issue, which, with our notice of last week, we believe fully answers his queries.

TAY, BROOKS & BACKUS are building a new foundry at Alvarado Landing.

Sugar from Grapes.

Eds. PRESS:—Would you have the goodness to inform me, through the PRESS, if making sugar from grapes has ever been tried? Last week, when crushing grapes for wine, I took a 5-quart saucepan and filled it with juice and placed it on the cooking stove, and to my surprise I found, by the time it had half boiled down, it had become a thick, heavy syrup, and somewhat burned.

Would it not be worth while to call the attention of some of the sugar-makers to it, as grapes can be raised for less money than beets? S. B. PENTLAND.

Common crystallized sugar, as we have repeatedly stated in the PRESS, cannot be made from grapes. Grape juice, when carefully boiled down, gradually acquires a syrupy consistence. If the boiling is carried to a sufficient extent, and the resulting syrup allowed to cool and remain undisturbed for several days, it hardens into whitish granular tufts, similar to the "sugar" sometimes seen on "candied" raisins—in fact, the two substances are precisely alike. If this substance is submitted to a heat of 220°, it melts into a thin liquid, which, on again cooling, takes the consistency and appearance of honey. If, in this condition, it is exposed for a long time to the air, it will again become granulated.

If, in the first condition of granulation, it is boiled at a temperature of 270°, instead of 220°, it gives off more of its water

(one-tenth of its weight) and hardens, on cooling, into a bright yellow, brittle mass; which, however, will soon absorb the one-tenth of water which it has lost in boiling, and deliquesce or "slack," like poor molasses candy. The only serviceable way to utilize grape sugar, is in its character as a syrup boiled down at a temperature of 220°.

Grape sugar, even when granulated and dry, possesses only two-fifths the sweetening power of crystallized cane or grape sugar. It is not, however, profitable to make it, either as a syrup or sugar, from grapes, for the reason that precisely the same article can be made, by a cheap chemical process, from the starch of potatoes or corn, much cheaper and equally as good.

THE AGRICULTURAL OUTLOOK.—Notwithstanding the small quantity of rain thus far, there is a general spirit of hopefulness manifested throughout the State, that the coming season will be a favorable one. The light rain-fall of the past week has imparted additional confidence, and gives an earnest that we may yet have an abundant supply of water, for both the miner and the farmer. As a general thing, our wettest winters commence in December; so that our people are not over-anxious, because it is not already "pouring."

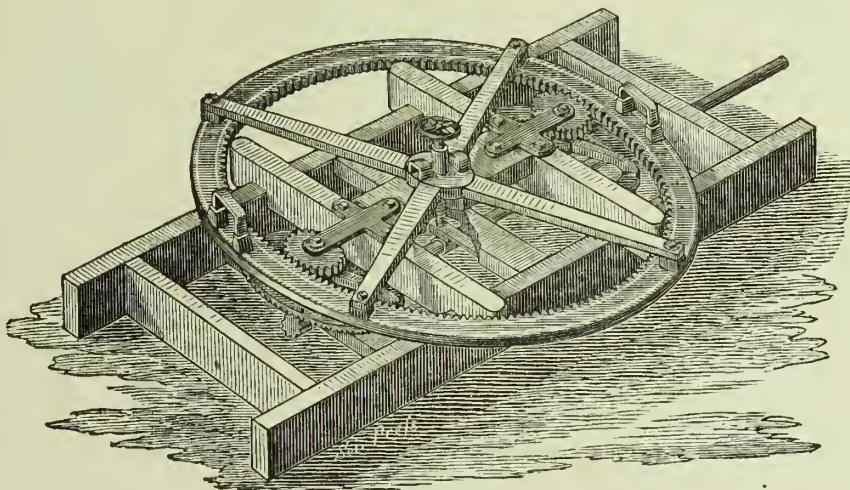
An unusual amount of dry-plowing is being done this season, in order that the fullest benefits may be derived from the rains. The experience of the past two years has been decidedly in favor of summer fallowing over volunteer crops, and the greatest confidence is now being felt in lands which have been allowed to rest during the past season.

Cheney's Improved Horse-Power.

Horse-powers, though applied to various purposes, are especially useful to farmers during harvest time, and, in a grain-growing country like California, where many farms are inaccessible to steam engines through the roughness of the country, are used extensively. In a machine of this sort any improvement of course is important. Heretofore the great trouble with horse-powers has been difficulty in stopping suddenly in case of accident or breakage.

Mr. Cheney's improvement effectually does away with these objections; and by its use, in case of the breakage of a belt or any part of the machinery, or a fractious horse in the team, the motion can be checked by the driver, so that the team can be stopped and no damage done to the thrasher. It consists in the application of a brake to the tumbling rod of the machine so that its speed can be regulated as desired, and by means of which the motion can be checked or entirely stopped, if required.

Our engraving represents the frame or horizontal base of any horse-power with the master wheel. In order to provide a brake the central hub or standard is made hollow and the hole is continued through the timbers. Either this hole is tapped or a nut inserted in one of the timbers so



CHENEY'S IMPROVED HORSE-POWER.

as to receive a rod which is also provided with threads so that it can be screwed up or down by means of the handle, shown in the engraving. To the under face of the timber a flat spring or equivalent device is secured so that its free end will be supported just above the tumbling-rod and below the screw-rod. If the screw-rod be turned so that the screw will force the end of the plate or spring down upon the tumbling-rod, which receives its motion from the master-wheel through a pinion at one or at both ends, it is easy to see that it serves as a brake to regulate the speed of the machine.

In order to apply a brake of the above described construction to a horse-power it is necessary to do it through the hub or centre of the master wheel of the power so that it shall not interfere with any of the machinery. It is so represented in our cut, and is convenient to the seat of the driver, who can stop the machine entirely in case there should be an unruly horse in the team or any accident happen.

This valuable and much-needed improvement was patented through the SCIENTIFIC PRESS agency by Return J. Cheney, of Petaluma, Sonoma county, Cal.

FIFTY DOLLARS OFFERED FOR A SHAD.—Seth Greene, who put the young shad in the Sacramento river last spring, offers to give his check for \$50, to the person who sends him the first shad caught after its return from the Pacific ocean.

"PUTTING THINGS AWAY."—The item under the above head in our issue of last week, should have been credited to the *Woman's Pacific Coast Journal*.

The Sacramento Beet Sugar Factory.

This new factory for making beet sugar, is to go into operation we learn, this week, and is doubtless now turning out sugar of superior quality.

Much interest is felt in the result of this undertaking, inasmuch as the machinery and mode of extracting the sugar are entirely different from that employed at the Alvarado Beet Sugar Works. Persons interested in the production of indigenous sugars may wish to know what constitutes this difference, because one of the two will doubtless prove superior for general adoption in California, and no one would wish to adopt other than the best.

At the Alvarado works, where they are now operating with splendid success, producing sugars equal, if not superior to most cane sugars, the beets are reduced to a fine, soft pulp, by means of rasp or grater, and the juice is extracted by centrifugal motion, with the addition of water to the pulp whilst rapidly revolving. This plan has been long in use in the beet sugar producing countries of Europe.

The Sacramento mode of extraction is by that known as Roberts' Diffusion process, a comparatively recent invention, and consists in reducing the beets by a root-cutting machine into thin, narrow ribbons or slices, and extracting the sugar therefrom, by soaking or diffusion in water of a given temperature, and under a certain pressure; all the other processes for converting the sweet juices obtained, into sugar, are very nearly the same in both cases.

It is claimed by the advocates of diffusion that, a purer juice is obtained in the first instance, a larger yield from a given quantity of beets, and produced at less cost; three points that possess important significance anywhere, but particularly in California, where labor and fuel are both high.

As there are a number of persons both here and in Oregon who are waiting with much interest and curiosity the result of the diffusion process as compared with the Alvarado or centrifugal process, we shall give in our next number all the information we can obtain in regard to either or both of them, so that parties wishing information in time to enter upon sugar enterprises next year, need have no delay in possessing themselves of all useful information on the subject.

Sufferers in San Joaquin Valley.

In the Stanislaus News, of the 10th inst., we find the following concerning the condition of the farmers in the San Joaquin Valley, who were recently reported as suffering for the necessities of life in consequence of the drouth:

Within the past week we have met several well-informed gentlemen from the west side of the San Joaquin river, who assure us that there is little or no destitution among the people—at least, in our county. It is true there are many farmers who are cramped for money and find it difficult to procure feed and seed for their next year's crop. They universally condemn the false reports that they are starving or even suffering for the common necessities of life. They are not of the kind of people who are likely to suffer for food in a State where there is plenty. Rather than be driven to that, they would be apt to remove their families to other localities. All they want is seed and rains for their lands. In fact, many of them have already seeded their fields, and we are assured that notwithstanding the drouth, there will be this year a larger area sown to grain in that district, than there was the past season.

Although reports of starving and suffering among the people were exaggerated, the farmers in many portions of the State, are in need of means to put in their crops, and it is to be hoped, that the movement lately inaugurated, by the business men of this city, to raise funds to be loaned to the farmers at low rates of interest for this purpose, will meet with the success it deserves.



THEODORE MILLS, OR POLITENESS REWARDED.

[Written for the Press.]

In a large city in the State of Ohio, on a narrow street, shaded with poplar trees, lived a family by the name of Mills. They were poor people, the father a machinist, working very hard to support a large family; there were seven children in all, and if they had all stood up in a row their heads would have looked like a pair of stairs. Theodore was the oldest; a boy with large violet eyes, flaxen hair and slender form. He had rocked the cradle for six of his baby brothers and sisters, and helped his mother around the house every morning and evening all his life, after he was old enough. At the time of the occurrence I am about to tell you, Theodore was going to the public school—his father and mother were doing all in their power to give him an education; they had instilled into his mind and heart the good principles of uprightness, and above all a polite and deferential respect to old age. Theodore was a little gentleman in every respect and the best scholar in his grade. Living about four blocks from Theodore's home, on a wide street, in a stone mansion was another family by the name of Grosvenor. Theodore had to pass this house on his way to school, and he used to admire the beautifully laid-out grounds, and the imposing appearance of the house, and every day he read the glittering letters on the door-plate, and wondered how he would feel to live in such a magnificent home.

Theodore, as well as other school children, used to see a very old lady in the Grosvenor garden, and sometimes they passed her on the walk as she paced slowly up and down with her cane. This old lady was very homely, and had a cross look upon her face that the children all noticed, and they soon grew to dislike her. She often heard them making unkind remarks of her looks as they passed; of course this hurt her feelings very much, and although she was very cross looking, she was one of the best natured old women in the world. Once a rude boy ran against her and nearly knocked her down.

One morning as Theodore Mills was passing, the old lady seeming more feeble than ever, was taking her usual walk, when she stepped upon a small stone, turning her foot so that she fell heavily upon the walk. In a moment Theodore caught up to her, and helped her to rise as well as he could. She could hardly support herself, for she had sprained her ankle. She said to Theodore's inquiry if she was hurt, "Yes, my dear boy, I am badly hurt,—I'm afraid—you may not like to help an old woman like me, the rude boys of your school will make fun of you."

"I do not care for that," said Theodore, "I am sorry you are hurt, and I will help you home, if I can."

"Open the gate, then, and I will stand against the post, while you go and ring the bell of the house, and send my son, Mr. Grosvenor, to me."

Theodore looked somewhat astonished to find that she belonged in the fine house; but he ran as fast as he could up the stone steps and rang the bell. While waiting for the door to be opened he felt a little embarrassed; he had never been at the door of so grand a house as this, and he was puzzled to know just what to say. Before he could collect himself, the door opened, and a gentleman in a handsome morning gown and elegant slippers stood before him.

"Sir," said Theodore, taking off his cap, "an old lady has hurt herself out here on the walk, and she cannot get in without help. She asked me to send Mr. Grosvenor to her."

"Thank you, young man, I'll go at once. My poor old mother, she loves her morning walks so much! I knew something would happen to her; she must not go out any more alone." Mr. Grosvenor said all

this to himself as he hurried along in his slippers over the gravel walk, while Theodore walked behind.

As Mr. Grosvenor put his arm around his mother, who was very pale with pain, he turned to Theodore and thanked him, but the old lady said:—"My son, ask his name and tell me where he lives." Theodore gave his name and the number of his cottage home on Peel street.

A year after, Theodore Mills was out of the public school, and had taken a letter of scholarship that enabled him to enter college, but his father was too poor to provide the means for his education, and poor Theodore found that he must give up his long cherished hope of an collegiate course, and go into some business. Accordingly, with letters of recommendation he started down the business streets of the city one morning, calling upon the bankers and wholesale merchants, asking for a clerkship. To all his inquiries he heard only the same reply, "We have no vacancies at present."

Almost discouraged, Theodore walked on till 3 o'clock in the afternoon, then he turned to the lawyers' offices. "Perhaps," he thought, "I may find something to do in the way of copying." The first office he visited was an elegant suite of rooms, lined with handsome book-cases and filled with books and pamphlets. Several young men were writing at the tables, and two or three gentlemen were in conversation. Theodore asked to see one of the firm, and a very old man with white hair approached him. After stating his desire for employment, the old man said to him:

"Well, young man, you ought to be in school, you are too young to commence this kind of business."

"I am too poor, sir," said Theodore, "to go to college." Then he went on and told the old gentleman how he had hoped to go from the public school to college. When he had finished the old gentleman said to him, "Well, leave your name and address, we shall have need of another clerk soon, perhaps we can do something for you." Theodore wrote his name on a card, and as he went out of the door he saw the old gentleman hand his card to a gentleman who had sat with his back toward him.

That evening, Mr. Mills was listening to Theodore's history of his day's work, of his call at the lawyer's office, when a loud rap upon the door stopped the conversation. Mr. Mills opened the door, and a letter was handed him for "Theodore Mills, Jr., Peel street, No. 67."

Who in the world could it be from? Theodore opened the letter and read aloud: "Theodore Mills, Jr.—DEAR SIR.—Please call at Mr. Grosvenor's, on M— avenue, as soon as you receive this, and oblige, yours, H. GROSVENOR."

Theodore stood mute with surprise for a moment—then he remembered the old lady, and his ringing the bell at the stone mansion, on the occasion of her accident, a year ago. He also remembered that he had never met the old lady since. "Father," said Theodore, "I do not know what all this means, but I must go, and of course you will go with me."

They were soon on the way, and during the walk Theodore told his father of his adventure with the old lady, a year before. On arriving at the house, Theodore and his father were seated in the library. Here the young man was fascinated—so much elegance had never met his eye before; the paintings and statuary held him spell-bound, and he did not hear Mr. Grosvenor when he entered the room, not until his father said:

"My son!"

Mr. Grosvenor shook Theodore's hand warmly, and bade him welcome, saying:

"Had I known who you were, when you entered my office to-day, I should have talked with you myself. My partner gave me your card, and informed me of your desire for a clerkship. My old mother has never been out of the house since the morning of her injury, when you so kindly assisted her, but she has never forgotten your politeness. She has kept herself posted in regard to your education ever since, until very recently, and only a few days ago requested me to find out what you were doing. She was rejoiced to-day to find that you wish to go to college, and are too poor to do so; I told her about it when I came home. She wishes to send you through college."

Mr. Mills at once spoke up, with an air of pride: "We could not accept so great a favor, Mr. Grosvenor—"

"No favor," said Mr. Grosvenor, quietly; "my mother is wealthy; she has no living relative, to whom she will leave her money, but myself; it will be a pleasure in her old age to do this, and I beg you will not oppose her. She liked the ap-

pearance of your son, and I believe he is worthy of it, and will make a good use of his advantages. You must come to my mother's room, as she is not able to leave it; she is a cripple the rest of her days."

Having said this, he led the way up a winding staircase, to Mrs. Grosvenor's room. Theodore was in ecstasies over the good fortune that had come to him, and bewildered with the elegance around him. The old lady held out both hands to Theodore, as he entered. He approached her chair, and knelt beside it. The old lady placed one hand upon his head, and said, in broken tones of age and ill-health: "My dear boy, I'm happy to be able to show you how I appreciate the tenderness and politeness given me a year ago; take this check, it will give you the means to go through college, and if you come out as good a man, as I found you a boy, you will prosper in life, with the respect of all good people. I may be dead before you see me again; but as long as I live, I shall watch your progress with interest."

Theodore could not thank her; manly tears coursed down his cheeks, and he bent over her hand and kissed it tenderly. Mr. Mills, with trembling voice, thanked them both for the great joy they had conferred upon the whole family, especially Theodore. After a pleasant chat, in which the Grosvenors learned the history of the hard-working Mills family, they took their departure.

Theodore entered Yale College within a month. Every yearly vacation brought him home, and he was a welcome guest at the Grosvenor mansion. The last vacation came. Theodore Mills had already made himself famous among scientific men, by two important inventions, and as an able writer. He came home loaded with honors full of promise for the future—only one year more at college, and he was ready for active life. The first news that greeted him, was the death of old lady Grosvenor, to whom he was so much indebted, and who had welcomed his yearly coming as if he were her son. Sad, indeed, seemed the house, as he entered it. Mr. Grosvenor gave him a letter the old lady had written only three weeks before her death. He opened it and read the following words:

"My dear adopted Theodore:—I am close to the end of my life. I shall never look upon your face again in this world. I rejoice in the good name you are making for yourself; be a good, upright man, and all will be well with you. In my will I have bequeathed to you the sum of twenty thousand dollars, as a return for your kindness to an old woman. Use it as you see fit, to accomplish the ambitious desires of your heart, and with it take my last blessing. HANNAH GROSVENOR."

Theodore graduated with honor, and was at once taken into business with Mr. Grosvenor in the practice of law. So you see how a polite act was rewarded, and how Theodore Mills prospered in life, by being a good man. L. L.

Encourage the Boys.

A lad from Iowa writes us, that he thinks farmers' sons ought to have a chance to earn something for themselves, to be allowed to make little ventures in stock-raising for pocket money, and to keep them contented at home. We think so too. We suppose a great many farmers do this, certainly the great majority of our readers do. But many work their boys with as little consideration as they work hired men. They take no pains to make farm life attractive, and the boys are off at the earliest opportunity. They have no joyous memories to bind them to the spot that ought to be the dearest on earth. To learn the worth of money they must have money as the result of their labors. To form habits of faithfulness and economy, these and other virtues must be rewarded. They should have responsibilities put upon them while they are very young, and be encouraged to make money and save it. Give them a hen, a goose, or turkey, a lamb, or pig, and let them have all they can make by good care and feeding. A boy of ten or twelve years of age, with a little instruction, can manage the poultry. Let him take it on shares and see what he can make out of it. Give him a patch for a garden, and, if near a market, let him sell what he can raise. Give him a half dozen apple trees or pear trees, teach him to graft them, if they need it, and let the fruit be his. Give the boys an interest in your business, and make them intelligent in it, and they will not be in haste to leave the homestead. Encourage them to read agricultural papers and books, and the appetite will grow by what it feeds upon. The farm will be the scene of cheerful, well-rewarded labor, and will always be loved.

Young Folks' Column.

A Boy's Advice to the Old Men.

I cannot pick up a newspaper without "Advice to Boys" stares me in the face. Old men write it, I s'pose. Nobody else is capable of giving advice to boys, of course not! They know all about us, they do, cause they have been there. Advice is a good thing to have, no doubt, and no family should be without it, but a fellow don't want to be crammed with it all the time to the exclusion of all other diet.

Now, old men need advice occasionally, but in looking through the newspaper I don't see that they get it. So I just thought I would write a little "Advice to Old Men" myself. If I am not presuming too much (as Aunt Chloe says), and I presume I am.

In the first place you old chaps ought to get over telling how much smarter boys were when you were boys, than boys are now. You believe it yourself, of course, 'cause you've told it so many times, but we boys can't see it. We have a notion that boys are boys, pretty much, (except some are girls) the world over, and one generation of them don't lay over another generation to any alarming extent.

Only let you tell it, and you could not run, out jump, out wrestle, and out anything else of the rising generation of to-day, when you were a boy. Grandfather, who has got the gout and half a dozen different kinds of rheumatism, is always saying that "I would I were a boy again." I would he were too, if I couldn't beat him running and flop him on his back, side holt, I don't want a cent.

I wouldn't go so far as to say, "Parents obey your children," but I would suggest to fathers that they give us a hearing occasionally, on matters in which we are the most interested party. Don't make us go and slide down hill when we want to skate, and make preachers of us when we much prefer to run a sawmill.

After giving us boys sage advice about our conduct, and how to behave, you old men ought to be careful how you get to relating your boyish scrapes to each other, and laughing over them before we get out of earshot.

A WONDERFUL DOG.—It is said that there is a remarkable dog in the State of Virginia that catches fish. When his master begins to talk about going on a fishing excursion, the dog immediately goes and digs up the bait that he brought home from the last fishing frolic and buried in the garden. If no bait was left in the box, he finds the spade and drags it to the spot where the worms are dug. Jack's services as an adjunct are more valuable beside the stream, where he unflinchingly watches the cork, at the least motion of which he becomes restive, until sure of a bite, when he makes a dead stand, as though setting a covey of birds. If the fish on being landed, becomes disengaged from the hook near the margin of the stream, he manages to keep it away from the water and bear it to a safe place inland.

In fishing for jack, or pike, as they are sometimes called, his master is in the habit of setting his poles, baited with minnows, at two places, some fifty feet apart, placing the dog at the station in sight, up stream. On such occasions he is fully competent to the duty imposed on him, and will give due notice in the manner stated. He lies on all fours, intently watching the cork with a countenance expressive of anxiety and expectation. Mr. A., on one occasion when Jack was assisting him, and he himself some rods distant (unmindful of the sport, meditating on the mutability of human wants), a large pike had drawn the fishing pole into the water, Jack seized the butt end of the pole with his teeth, and actually drew him ashore before he got to him.

A Curious Plantation.

Plant a burning house and what will come up?—*Ashes.*

Plant a place for building ships and what will come up?—*A dock.*

Plant a mourning dress of a lady and you will raise—*Weeds.*

Plant a public school and you may expect—*A rush.*

Plant the scent of good breeding and you will find always—*B. Natural.*

ANSWER TO PUZZLE IN LAST WEEK.—The servant merely put the letter S before the two Roman numerals IX. The direction then read—"To Alderman Gobble, with SIX Ducks."

ANSWER TO CHARADE.—Moonlight,

DOMESTIC ECONOMY.

Softening Water for Household Purposes.

EDITORS PRESS:—In many parts of California the "hardness" of the water is a constant source of trouble and vexation to housekeepers. It is frequently unfit for culinary purposes, and it is the exception to the rule to find good washing water. Most families, therefore, resort to sal-soda, borax, concentrated lye, or to the various washing fluids advertised for sale to "soften" (or "break," as the washmen call it,) the water before washing clothes, gaining thereby a saving in labor and soap, which is, however, more than counterbalanced by the destruction of the fabric of the garments washed.

Your correspondent has been "keeping house" in this State, in various places, nearly ten years, and has experimented with all sorts of washing powders and fluids, and has found the objections stated above applicable to them all. He has recently, however, been using a modification of Dr. Clark's process for softening water, with such satisfactory results that he sends it for publication that others may benefit by his experiment.

The "hardness" in water is generally caused by its holding in solution a salt of lime, most frequently in the form of bicarbonate of lime. When soap, which is a compound of an alkali and an oily acid, is added to the hard water, the lime decomposes it and combines with the oily acid to form a lime soap, which is insoluble and has no cleansing properties. Now every grain of bicarbonate of lime dissolved in water decomposes ten grains of soap; water, therefore, which contains, for example, 20 grains of lime salt to the gallon, will destroy 200 grains of soap; in other words the first half ounce of soap added to a gallon of water of this degree of hardness, will disappear without forming a lather or having any cleansing effect. Clark's process for softening water is based upon the principle that carbonate of lime, which is but sparingly soluble in pure water, dissolves readily in water containing carbonic acid forming a bi-carbonate, and that when a solution of caustic lime is added to such water, it takes part of the carbonic acid away from the bi-carbonate and reduces the whole to the form of an insoluble carbonate of lime or chalk, which falls down "taking along with it in a sort of net work other mineral salts as well as some organic matter."

Various methods have been suggested to adapt this principle to practical use, most of which require expensive machinery or a heavy outlay for tanks and reservoirs. The plan in use by your correspondent is cheap and easily followed.

The only apparatus required is two common barrels, placed on end, with their heads removed and fashioned into covers. Into one of these is placed about half a bushel of unslacked lime; it is then filled with water and briskly agitated for a few moments and the undissolved lime permitted to precipitate, when the supernatant liquid becomes clear and transparent.

Then fill the other barrel with this clear lime water, and common hard water in the proportion of one bucketful of the former to eight or ten of the latter, (placing all the lime water in the barrel first), and stir briskly for a few moments. The clear liquid soon becomes turbid. A white cloudy precipitate of insoluble carbonate of lime forms and gradually falls to the bottom of the vessel, leaving the water transparent as crystal and soft as rain water. It is excellent drinking water, and makes splendid tea, and for laundry purposes leaves nothing to be desired. It makes a lather easily, and clothes washed in it are white and pure without the expenditure of half the amount of soap required by the same water before the precipitation of the chalk.

Of course the proportion of lime water to common water given above will vary with the degree of hardness of the water in any given locality. This can only be determined by experiment, the degree of hardness being gauged by the quantity of soap required to be added before a lather is produced.

When the barrel of lime water is exhausted it is only necessary to add more water to the same lime, as it can be used over and over again.

W. W. H.

Apples in Cooking.

Julia Colman, in the *Rural New Yorker*, in speaking of the various uses to which apples may be applied, says:

A broad field where apples come in when milk and eggs go out, lies in the range of puddings, a style of dishes hitherto very largely dependent on milk and eggs. And first, we will take the simplest, a bread pudding. Stew your apples gently in a moderate amount of water, and sweeten to the taste. If wanted very nice, strain through a colander. Cut bread in slices one-third of an inch thick. If hard, steam it. Put in an earthen pudding dish a thin layer of stewed apples, and then a layer of bread, until the dish is filled, finishing off with the fruit. Some like more apples, others less. Bake about 40 minutes. This is very plain. It can be improved by moistening the bread in a preparation of one part lemon juice and four or five parts water, sweetened to taste; and by scattering on the surface of each layer of apples, a few nicely washed Zante currants, or seedless raisins. Or apple and grape, apple and quince, apple and cranberry may be used, always stewed.

Another series of puddings can be made with uncooked chopped apple mixed with equal quantities of cooked pearl-barley, or cracked wheat or hominy. To one pint of each of these ingredients add one gill of sugar, and, if you wish it, one-half pint of stewed raisins or Zante currants, and the juice of one lemon, (with two spoonfuls more of sugar to sweeten it;) mix thoroughly, and bake an hour or more.

A very simple crusted pudding may be made by filling an earthen pudding-dish with spiced apples, and spreading over it, thickly, a batter crust made by stirring wheat meal into cold water until the batter is just too thick to settle flat. Bake 30 or 40 minutes, then loosen at the edges, invert on a plate, mash and sweeten the apples, cut in pie-quarters, and serve. Instead of the batter crust, pour boiling water into wheat meal and stir lightly, making a dough just firm enough to roll out; make it one-third of an inch thick, spread over the apple, and bake 30 minutes, or until the apples are tender; invert and serve as above.

A cocoa-nut pudding, more delicate than any of the above, is made with two-thirds grated apple and one-third grated cocoa-nut, sweetened to the taste, and a very little grated nutmeg, one-third of a teaspoonful to a quart of pudding, just enough to flavor it, without giving the "tang" of the nutmeg. This is the proper way to use flavors when used at all. The result will be there, and evident, though the partaker may not be able to trace its origin. Bake this pudding half an hour. Stewed apple may be mixed in equal quantities with scalded sago or soaked tapioca, with currants, stewed raisins, or seedless raisins to the taste. Sweeten and bake 40 minutes. Or stuff pared and cored apples with the raisins from the soaked and sweetened tapioca, or sago and apple over them; bake till the apples are tender, and you have a showy and delicious *bird's-nest pudding*. But these puddings are very good without the "bird's nest," and they are very convenient to make with canned apples, after the fresh apples are gone.

Effect of Keeping Flour in Barrels.

As is well known, flour kept in barrels for a long time often acquires a peculiar odor, supposed to be derived from the barrel. Professor Poleck, of Silesia, has lately made a careful examination of such flour, and has ascertained that this smell actually indicates an incipient decomposition prejudicial to bread-making, the gluten of the flour having in part become changed into a soluble body. Thus, while sound flour, preserved in sacks contained 11.06 per cent. of gluten and 1.44 per cent. of soluble albuminous matter, four other specimens of flour taken from different barrels were severally composed of 8.37 per cent. gluten to 2.14 per cent. soluble albumen; 7.40 per cent. to 6.90 per cent.; 7.23 per cent. to 4.44 per cent.; and 6.54 per cent. to 6.46 per cent. Two samples with more than 6 per cent. of soluble matter had an acid reaction, while the others were neutral. Professor Poleck believes this chemical change of the flour to be induced by the fact that the barrel prevents communication with the atmospheric air and the equalization of temperature. This view is confirmed by the oft-repeated observation that flour in sacks keeps fresh for a much longer time, and that the mustiness in barrels always develops first, and exists in the highest degree in the center, viz., that portion most remote from the outer air.

Domestic Receipts.

Good Recipes for Soup.

OYSTER SOUP.—Three quarts of opened oysters; three pints of milk. Boil the oysters in their own liquor, with a very little powdered mace, cayenne pepper, and a piece of butter the size of an egg. When the oysters have become plump, add the milk; this must be done carefully to prevent curdling, and thicken the whole with powdered and sifted cracker. Many prefer this soup without using thickening.

GREEN PEA PUREE.—Soak one quart of peas in boiling water for an hour. Take them out and put them in fresh boiling water to cook, with a pinch of salt, and a bit of celery, if procurable. When well cooked mash them and rub through a sieve. Put in a piece of butter half the size of an egg, and a very little pepper and a pinch of salt and half a pint of cream, and warm up for the table. All purees are better for a foundation of beef-steak.

PUREE OF SQUASH.—Cut the squash or pumpkin into small pieces, and stew it with a little salt. Rub it through a sieve, and make it like "green pea puree," with butter, cream, pepper and salt.

PEA SOUP.—Soak a quart of peas in lukewarm water for three hours; pour off the water and boil in three and a half quarts of water well salted, until the peas are thoroughly soft. Then strain through a colander and throw the peas away. This will keep several days in cool weather. When used, take out the needful quantity, boil it with a bit of pork partially cooked, an onion, a pinch of salt and pepper, and serve hot with squares of toasted bread floating on top.

TURTLE BEAN SOUP.—Take a quart of black beans; wash them and put in a pot with the usual quantity of water, and boil until thoroughly soft. Dip them out and rub the pulp through the colander, and return it to the liquid in the pot. Add some thyme in a clean cloth, put it into the pot and let it boil a few minutes for flavor. Slice some hard-boiled eggs and drop them into the soup. Add a little butter, pepper and salt. Some people like a little wine, and a slice or two of ham at the bottom of the tureen.

Mechanical Hints.

STAIN FOR NEW OAK.—A correspondent, who objects to the use of lime water as a stain for oak, on the ground that the color produced, though good at first, becomes in two years of foxy red, says: For new work, especially church work, let no oil, no ash, come near it, but wash it with hot beer, and rub it well; the grain will show admirably, and time will mellow it down to a tone which never could be acquired if it had been previously doctored.

DRY ROT OR WORM IN FURNITURE.—A Berlin cabinet maker says: Take equal parts of paraffine and linseed oil; saturate the same; that will stop their work. If the articles are exposed to an airy place for a few days it will dry, and the smell will go off. I have used the same to advantage.

MULTUM IN PARVO.—W. Z. Cooke, of Birmingham, England, has invented a mode of constructing a table, bed, child's rocking cot, settee, folding chair, drawers and press, in such a manner as to be combined together, wholly or partially, so as to be used when desired, and capable of being folded up into small compass.

AN OLD STEAM-ENGINE.—The Spanish cinnabar mine of Almaden, is one of the last places one would expect to find one of Boulton & Watt's original engines, but it appears that one was erected there in 1799, and has been at work ever since.

MANY mechanics complain of inability to set a machine to be driven at right angles from the line or counter-shaft, without continual trouble with friction from the shifter on the belt, and the slipping of the belt to the tight or loose pulley. The operation is a simple one, and just as effectual as to drive in a direct perpendicular or horizontal. Take the center of the off or contributing side of your drive pulley and drop it from a plummet; let this line decide the center and perpendicular of the side of the tight and loose pulleys which takes your belt at a right-angle below. Unless your eye is accustomed to the angles which are given to the appearance of the belt, from either side, you will condemn the position without trying, but if you are careful to get an exact perpendicular in the manner described there can be no mistake.—*American Manufacturer*.

LIFE THOUGHTS.

HOLD ON.—Hold on to your tongue when you are just ready to swear, or speak harshly, or use any improper word.

Hold on to your hand when you are about to strike or do any wrong.

Hold on to your feet when you are on the point of kicking, or running away from study, or pursuing the path of error, shame, or crime.

Hold on to your temper when you are angry, excited, or imposed upon, or others angry about you.

Hold on to your good name at all times, for it is much more valuable to you than gold, high places, or fashionable attire.

Hold on to the truth, for it will serve you well, and do you good throughout eternity.

PROVIDENCE has a thousand keys, to open a thousand doors, for the deliverance of his own.

It is grateful to see the clear shining of the sun after a rain. It is not a change from truth to falsehood which men need, but from one form of truth to another.

POLITENESS is but kind feeling toward others, acted out in our intercourse with them. We are always polite to those we respect and esteem.

TRUST him little who smilingly praises all alike; him less who sneeringly censures all alike; him least who is coldly indifferent to all alike.

It is more from carelessness about truth, than from intentional lying, that there is so much falsehood in the world.

THE way to get rid of doubts in religion, is to go to work with all our might and practice what we do not doubt.

STRIVE after an equal tranquility of mind on all occasions and in all circumstances. Strive to get accustomed to this frame.

ENERGY will do anything that can be done in this world; and no talents, no circumstances, no opportunities, will make a man without it.

Keep Your Eyes Open.

Two teachers may be standing before the same class, one will merely be aware that there is a general disorder and noise throughout the room, without being able to identify any particular scholar as transgressing.

The other will notice that James is talking, that William is pulling his neighbor's hair, that George is munching an apple, and so on. The difference in the two is that one's mind is awake and he sees all that is going on, and knows first where, when, and how to stop it. It therefore becomes every teacher to constantly have his eyes open, and to see all that is being done. A man's mind must be awake. In fact this is the secret of the whole matter, for the more the face and eyes are quiet and the mind is on the alert, the more will a man see. Seeing is rather a mental than a bodily act, though of course the bodily organ is necessary to its accomplishment. Wherefore to be a good observer, we have learned that one must maintain a quiet and composed demeanor, but be thoroughly wide-awake within.

GRAVES.—What unconscious tribute we pay to the doctrine of the resurrection, by the love and honor in which we hold graves, century after century. Surely, in our hearts we believe that each such spot becomes forever unlike all other ground; by whatever process the dear flesh crumbles, returns to dust, and is changed into the leaf, flower, and seed that perish in our hearts, we believe that the grave remains a grave, and that at least this much is sure; that the happy, soaring, growing spirit, which has gone to a world above, will never forget where the tiny spot is on this one, in which its human body was laid.

THINK.—Do your own thinking. Yes, that is the idea. Think for yourself. It is well to listen to the expressed thoughts of others, and it is an agreeable pastime to give expression to your thoughts. But when alone, weigh what you have said, and traverse what you have said. It is well to do this, for it will assist in curing you of false notions, and in eradicating unprofitable and vicious ideas, and in time make you better men and women. What you thus gain from surroundings, you will unwittingly transmit to the rising generation, and the result will be that you will do your share in the glorious work of elevating the human family. Do your own thinking.

Blooded Stock for Oregon.

Mr. S. G. Reed, of Portland, has just imported by way of the Central Pacific railroad a very valuable lot of thoroughbred and full-blooded stock, consisting of horses, horned cattle, sheep and swine. The stock arrived in this city the first of the present week, and left yesterday (Friday) by the steamer Oriflamme, for Oregon.

There was one very fine Clydesdale stallion and four brood mares of the same breed, direct from Scotland. The cattle, thirty-eight in number, are of the Durham, Ayreshire, and Alderney breeds. The Durhams—short-horns—were selected from the celebrated herds of Mr. Booth of Yorkshire, England, and were twenty-six in number.

There were seventeen choice Cotswold sheep—five ewes were prize animals, that had taken prizes at a number of English Fairs, and are said to be among the finest of that stock ever brought to the Pacific Coast.

The swine are of the Essex and Berkshire breeds, and there were twenty-five in the lot. Among them was one Berkshire sow, ten months old, remarkable for her size, symmetrical proportions and early maturity. She had been awarded several first prizes in England before she was brought to this country, and was rated as one of the ten best at the great hog show at Chicago this fall, and took the \$1,000 sweepstake at St. Louis. She gave birth to eight fine pigs on the car between Ogden and Sacramento—all of which lived and were doing well.

The herd, while in this city, was stabled on Howard street, near Fifth, and attracted much attention from our stock men and many others interested in such matters, among whom but one opinion was expressed regarding it, and that of the most favorable nature.

We understand that Mr. Reed intends to make his farm of 3,000 acres, near Portland, the headquarters of full-blooded stock of all kinds in Oregon. He had a good beginning before this importation.

This present importation was selected by, and brought over under the charge of, Mr. William Watson, of Scotland.

Thanksgiving Proclamation by the Governor.

In accordance with a usage which has become national, I hereby appoint Thursday, the 30th day of November, as a day of Thanksgiving and Praise to Almighty God, for the blessings of the past year. Aside from the causes for thankfulness enumerated in the proclamation of the President of the United States, the people of this State have special cause for gratitude, for exceptions from the calamities which have befallen some of our sister States, east of the mountains. The history of nations, the suggestions of reason, and of religious faith teach us that no people need expect permanent prosperity without recognition of the goodness of Divine Providence and a sense of dependence upon His name.

In testimony whereof, I have hereto set my hand and caused the great [L. S.] seal of the State to be affixed at the city of Sacramento, this tenth day of November, A. D. 1871.

H. H. HAIGHT, Governor.

Attest: H. L. NICHOLS, Sec'y of State.

GROUND CHERRIES—POHA BERRIES.—We have received some specimens of the above fruit from Montana. They consist of both the large blue and the small yellow varieties. They were raised on Boss & Bro.'s Pine Grove Farm, Bitter Root Valley, and are as fine specimens of the fruit as we have ever seen.

THE BABCOCK FIRE EXTINGUISHER.—An experiment was made with the Babcock Extinguisher on the Pacific Steamship wharf, on Tuesday last, in the presence of a large number of insurance men and captains of steamships and others. The experiment was highly satisfactory as to its merits and great practical value.

Darlingtonia Californica.

We have read with a great deal of interest, the notes on this much-talked-of plant, in a late number of the PACIFIC RURAL PRESS. A Mr. Lemmon of Sierra Valley, presented the *Press* a specimen of the Pitcher Plant, which was recently found at Black Hawk Creek, near Quincy, in Sierra County; and which, from its peculiar and different appearance from what has been heretofore described as the California Pitcher Plant, the *PRESS* pronounces to be a new species.

We have not seen the new specimen in question, but from this cut before us, we must certainly consider it the same plant previously described, and which grows in Nevada County.—[The cut given, as stated in the article referred to, was a representation of the species heretofore described, and did not show the variations of the plant found by Mr. Lemmon.—Ed. *PRESS*]

Mr. Lemmon pronounces it a new species, because its leaves are thirty inches long, while those of the previously exhibited specimens are only about ten inches. But we can assure that gentleman, from our own experience, that we have seen leaves of the same plant in Nevada County, fully thirty inches in length.

As we have not seen the flower we cannot pass an opinion on it.

As far as the cultivation of the Pitcher Plant is concerned, we entirely differ from Mr. Lemmon, as to the difficulties. At Woodward's Gardens they did not grow, because they were treated as a hot-house plant and did not receive proper soil; and not, as Mr. Lemmon says, because the gardener there "could not produce the cold necessary."

The summers in Sierra County are much warmer than in San Francisco, and it is during the summer months that the Pitcher Plants are in a developed state. All that this *Darlingtonia Californica* requires, is a strong black loam (or what is much better, peat) and any amount of moisture, and it will then thrive well in the open air.—*California Horticulturist*.

Fog Horns and Whistles.

Five steam fog whistles, and two steam fog horns are now being fitted up, at the boiler works of McAfee, Spiers & Co., in this city, and will soon be put up at different points along the coast, under the supervision of Col. R. S. Williamson, of the 12th Light House District. The whistles and engines were made in the East, and the boilers are attached here. The whistles will be erected at Point Reyes, Point Arena, Pigeon Point, Point Anno Nueva and Point Concepcion; and both fog horns at Point Bonita. The whistle at Point Reyes, is waiting for the advent of the rainy season, that at Point Arena is almost completed, that on Pigeon Point is already in operation; the machinery for the one at Point Anno Nueva is at the works ready for shipment, and the one for Point Concepcion is already on the ground, and will be erected immediately. These steam whistles are a new invention and are being generally adopted in the United States and Europe. The trumpets of the fog horns, or sirens, to be placed on Point Bonita, are 18 or 20 feet long, and will be heard for miles.

During the number of years which have elapsed since the settlement of this coast by a white population, and the consequent permanence of the shipping interest, only one vessel or steamer, (the Continental) has been lost by "stress of weather." Of the other casualties in this line the majority were caused by the prevalence of fogs, or miscalculation in position when entering this port; consequently these fog horns and whistles will be of great advantages in preventing such accidents hereafter.

"SALT AS A FERTILIZER AND OUR ALKALINE SOILS," form the subject of an address which is to be given this afternoon, before the San José Farmers' Club, by Prof. Ezra S. Carr. The subject is not only interesting, but one of much practical importance, especially on the Pacific Coast; and from the high reputation of the Professor we presume it will be ably handled.

THE WATER QUESTION.

By A. B. BOWERS, CIVIL ENGINEER.

[Continued.]

Swamp Land Basin, North of the American River.

On the east side of the Sacramento, above its junction with the American, is a basin forming part of several townships, many thousand acres of which are lower than the banks of either stream. This basin receives the drainage of a considerable area on the east, and its reclamation involves therefore, the leveeing of the rivers, the disposal of the drainage, and the irrigation of the land. The most judicious drainage and irrigation, can be determined only after the necessary surveys have been made. It will perhaps be found advisable to carry portions of the drainage into each river, though it may be necessary to carry the whole of it either under, or over the American. The catchment drains should be so located and constructed, as to furnish facilities for the irrigation, not only of the swamp land, but of the adjacent uplands also; and the drainage water should be stored up in reservoirs for this purpose, wherever an opportunity presents itself.

The rainfall within this basin, would probably be absorbed by the soil, though in very wet winters, some pumping might be necessary; but, if so, it would not be sufficient to occasion any great expense.

Other Basins.

Similar conditions are met with in the basins on the west side of the Sacramento, both north and south of Knights Landing, and in that between the Sacramento and Feather rivers; and similar measures, of course, are necessary for their reclamation.

Basins on West Side of Lower Sacramento.

On the west side of the lower Sacramento, extending for several miles on either side of the southern boundary of Yolo, is a basin, lower, in places, than the level of the ocean; and these portions are always covered with water; the evaporation of a single season, being insufficient to dispose of it all, though it probably carries off five or six feet per annum.

Yolo Basin.

North of this basin, perhaps eight or ten miles below the city of Sacramento, a transverse swell, probably not more than three or four feet above the land on either side, crosses the tule from upland to river. The highest part of this swell, is supposed to lie a little north of the old turnpike, known as "The Swift Grade." North of this swell extending to near where the California Pacific Railroad crosses the tules, and perhaps a mile or two farther, is another basin lying wholly in the county of Yolo, so shallow that the water quickly evaporates whenever it ceases to be fed from Putah and Cache creeks.

Regulation of Drainage.

Through these two basins, according to the best maps within our reach, passes the drainage of about twenty-five hundred square miles, or one million six hundred thousand square acres; embracing the whole, apparently, of Lake county, nearly all of Yolo, and a large portion of Napa. By the construction of the necessary levees, reservoirs, dams, and canals, this drainage may be regulated so as to furnish irrigation for swamp land and upland; and the arable portion of this region may thus be made a perfect garden in fertility and productivity. Should it be found impracticable to construct reservoirs of sufficient capacity, in connection with canals of irrigation to retain all the waters of Putah and Cache Creeks, the surplus can be carried between suitable embankments to some of the head branches of Cache Slough. This, however, is not likely to prove necessary. When this drainage has been disposed of, and the proper levees constructed, the deeper portions of the lower basin, will soon become dry from evaporation, unless large springs, or waters of filtration, should necessitate pumping. This, however, is not probable, and, if necessary, would occasion no great expense.

PLACERVILLE is to have a flouring mill in running order before the next harvest. Messrs. Creighton & Son have determined to build one there.

News in Brief.

The mountain fires in Santa Cruz county have nearly subsided.

A Japanese gentleman has recently taken up his residence with C. F. Reed, of Yolo, to learn the sheep business.

A man in Gilroy came near dying last week from eating a few seeds from a caper bush.

The Alvarado sugar mill is working up 50 tons of beets per day.

At Calistoga 8,000 three-year old mulberry trees are to be transplanted in an orchard, and a cocoonery established next season.

The committee of the Board of Supervisors appointed to examine into the water supply of this city, are at Lake Tahoe.

The wine product of Los Angeles county for this year is estimated at 1,250,000 gallons, and the season was a bad one.

Some unprincipled vandals tapped a large wine vat near Calistoga, last week, and after drinking their fill, left the plug out and wasted 2,000 gallons of wine.

There is much activity in building in Visalia.

Over 100 hands are now at work on the Russian River Railroad bridge.

The value of farms in Ohio is estimated at over \$1,000,000,000.

"Goldsmith Maid" is after "Dexter" again, and has gone from Milwaukee to Philadelphia.

Strawberries measuring an inch and a half in length and three inches in circumference, were picked last week in Norfolk, Va.

Among the largest quantities of single articles imported into this country at the present time, are railroad iron, furs, sugar, human hair and wine.

Of all State debts, Virginia has the largest, and Oregon the smallest.

The Visalia stage was robbed on the 4th inst. by highwaymen, and about \$500 taken.

The Cloverdale stage robbers have been "bagged."

Butter was first made as a cosmetic, and was once used for illuminating purposes. It was not known as an assistant in dispatching bread, much, if any, before the Christian era.

Mendocino has a large grain crop this year.

San Diego had a heavy rain on the 11th inst.

The works of the Gilroy Water Co. are rapidly approaching completion.

A thousand-pound grizzly has been killed in San Luis Rey Valley, San Diego county.

A surveying party from the Board of Tide Land Commissioners, is at work in Marin county.

The assessable property of Butte county, last year, was \$3,000,000; this year, it has increased to \$5,000,000.

The Los Angeles orange crop is ripening and promises to be more abundant than that of any previous year.

A fine sample of English chestnuts, produced at Jamestown, [Tulahoma county], has been exhibited in Stockton.

The Tide Land Reclamation Co. filed in one day, 28 certificates of purchases of parcels of land on the lower Sacramento.

Hickman Co., Tenn., yields 150,000 bushels of peanuts this year.

A larger crop of buckwheat has been raised in Southern Iowa than ever this year.

An approximate measurement shows 60 miles of streets laid waste in the great Chicago fire.

There have been 14,260,327 pounds of tea transported over the U. P. R. R. so far this year.

The Queen's physician announces Her Majesty's health improving.

A fire in Geneva raged during the whole of Monday, destroying much property.

A 60-pound salmon was caught in the Bay last week.

Cold weather has set in in Nevada, and ice forms in Gold Hill and Virginia City nightly. Carson river was frozen over lately.

Considerable snow has fallen in Utah. The roads to the Cottonwood Districts are kept open with difficulty.

Street cars built in Boston and other American cities, are now in use in Belgium and Denmark, and in London, Liverpool, Birkenhead, Glasgow, and in many cities in the United States.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Nov. 16.

FLOUR—The local inquiry continues fair, with very little demand for export. Sales reported embrace 3,500 bbls. Cal. extra, 2,500 Oregon extra and 2,000 Cal., part for export, private. We quote prices as follows:

Superfine, \$6.50@6.75; extra, in sacks, of 196 lbs. \$7.37 @ \$7.50. Standard Oregon brands, extra, may be quoted at \$7.50.

WHEAT—The demand has been light, being confined to the wants of local millers, and transactions in consequence are limited. Only one cargo has been cleared since the 1st inst. Sales include some 15,000 sacks fair to choice at \$2.45 @ \$2.62½. We quote at close for \$2.45@2.65.

The latest Liverpool market quotation comes through at 13s.—an advance of 1d since last report.

BARLEY—Has been in only moderate demand during the past week. Sales embrace 7,000 sacks ordinary coast to choice bay, at \$1.85@2.10. Quotable at close at \$1.90@2.10.

OATS—The demand has been quiet for this grain since our last report. Sales embrace 9,000 sacks ordinary coast to choice bay, at \$1.75@1.90; quotable at close at \$1.80@1.95 @ 100 lbs.

CORN—Market quiet and sales light. We quote between \$2.05@2.10.

CORNMEAL—Is quotable at \$2.75@3.25, from the mill.

BUCKWHEAT—In light supply at \$2.50@2.62½.

RYE—According to quality is quotable at \$2.25@2.30.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Demand fair at \$30 per ton from the mill.

MIDDINGS—For feed are selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Has been in good demand at full prices during the past seven days, and prices at close are \$19@25 for fair to choice @ ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The receipts have been free and demand fair, especially for Red, during the week under review. Good to choice qualities of Red are quoted at 60c@1.00; fair to choice Humboldt at 90c@1.00.

SWEET POTATOES—Are selling at \$1.00 @1.25.

HOPS—We quote new at 50@60c.

HIDES—During past week 1,314 Cal. dry sold at 17@18 and 1,553 salted at 9@9½c.

WOOL—The market during the week under review has been very quiet, and prices are without essential change. Sales aggregate 430,000 at 22@26c for fair to good lots of Fall. We quote good shipping grades at 22@26c. Burry and dirty in large supply, but still neglected, and held at 20c with no sales, buyers refusing to give over 17@19c.

TALLOW—Market steady at 9¼@9½c @ lb. **SEEDS**—Flax 3c; Canary, 7@7½c; Alfalfa, 15@16c, new and clean, 19c. Mustard—California Brown, 3@6c; Cal. White 3¼@4½c @ lb.

PROVISIONS—California Bacon 14@15c; Oregon, 15½@16c; Eastern do. 14@14½c; for heavy and 15½@16c for light; Cal. Hams 14½@15½; Or. 15½@16c; California Sugar-cured Hams, 17@18c; Oregon do. 17@18c; Eastern do. 20@21c; California Smoked Beef, 14c.

BEANS—Market continues firm. The following are jobbing rates: Pea 3.00@3.50; small White \$2.75@3.25; small Butter \$3.30@3.25; Pink \$2.12½@2.50; Bayo, \$3.50@4.00 @ 100 lbs.

ONIONS—We quote the range from fair to choice at 60c@1.25 @ 100 lbs.

NUTS—California Almonds, 10@12½c for hard and 15@20c for soft shell; Peanuts, 5@6c; Pecan, 25c @ lb. Walnuts, new, 12½@14c; Hickory, 12c; Brazil, 15c.

SPICES—Coffee, Costa Rica 21c; Guatemala 20c; Java 25½c; Manila, 19½@20; Rio 19½@20. Ground Coffee in cases 30c. Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Ground Spices—Allspice \$1.00 per doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 per dozen; Mace \$1.50 @ lb.; Ginger 15c @ lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9c @ lb. Do 2d quality 7@8c @ lb. Do 3d do 5@6c @ lb.

VEAL—Quotable at 9@11c.

MUTTON—6@7c @ lb.

LAMB—Scarce at 7c @ lb.

PORK—Undressed grain-fed is quotable at 6@6½c dressed, grain-fed, 8¼@9c.

POULTRY—Live Turkeys, 18@19c @ lb; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$4.00@6.00. Ducks, tame, \$6.00@7.00 per doz.; Geese, \$12@15 @ dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87½; English Snipe, \$2.50; Mallard Ducks, \$3.00@4.00; Small Ducks, \$1.50; Wild Geese @ doz. \$1.50@3.00; Venison @ lb., 8@10c; Terrapin @ doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@55c; California firkin butter, 27½@35c. Eastern firkin 20@30c.

CHEESE—California 14@17c, Eastern, 16@17c. **EGGS**—California fresh, 68@70c, @ doz. **LARD**—California Lard, 11-lb tins, 12½@14c; Oregon in bbls. 13@13½c; Eastern; in tierces, 12½@13½c.

FRUIT.

| | | |
|-----------------------------------|---------|---------|
| Tahitian Oranges..... | \$30 00 | @ 35 00 |
| Limes, 1,000..... | 8 00 | @ 10 00 |
| Australian Lemons, 100..... | 4 00 | @ 5 00 |
| Benanas, 100..... | 2 00 | @ 3 50 |
| Cocoanuts, 100..... | 6 50 | @ 8 00 |
| Apples, eating, 100..... | 1 00 | @ 1 50 |
| do cooking do..... | 60 | @ 1 00 |
| Pears, cooking..... | 50 | @ 1 00 |
| do eating..... | 1 00 | @ 1 50 |
| Peaches, 100..... | — | @ — |
| Choice Mountain do, 100..... | — | @ — |
| Quinces, 100..... | 1 00 | @ 1 25 |
| Strawberries, 100..... | 15 | @ 25 |
| Plums, 100..... | 1 00 | @ 1 50 |
| Prunes, 100..... | — | @ — |
| Figs, 100..... | — | @ 10 |
| Grapes, Sweetwater, 100..... | — | @ — |
| Mission do, 100..... | 1 | @ 2 |
| Rose of Peru do, 100..... | 4 | @ 6 |
| Black Hamburg, do, 100..... | 4 | @ 6 |
| Muscat of Alexandria do, 100..... | 3 | @ 5 |
| Flame Tokay do, 100..... | 4 | @ 6 |
| Isabella do, 100..... | — | @ — |
| Eastern Cranberries 100..... | 17 00 | @ 17 50 |

DRIED FRUIT.

| | | |
|----------------------|----|-------|
| Apples, 100..... | 6 | @ 7 |
| Pears, 100..... | 8 | @ 10 |
| Peaches, 100..... | 9 | @ 9½ |
| Apricots, 100..... | 8 | @ 8½ |
| Plums, 100..... | 6 | @ 8 |
| Pitted do, 100..... | 18 | @ 20 |
| Raisins 100..... | 8 | @ 15 |
| Black Figs, 100..... | 8 | @ 12½ |
| White do..... | 15 | @ 20 |

VEGETABLES.

| | | |
|--------------------------------|------|--------|
| Cabbage, 100..... | 1 | @ 1½ |
| Garlic, 100..... | 1 | @ — |
| String Beans, 100..... | — | @ — |
| Summer Squash, 100..... | — | @ — |
| Tomatoes, 100..... | 1 00 | @ 1 50 |
| Cucumbers, 100..... | 1 25 | @ 1 50 |
| Green Corn, doz..... | — | @ — |
| Watermelons, each..... | 4 | @ 8 |
| Cantaloupes, each..... | 4 | @ 8 |
| Marrowfat Squash, per ton..... | 5 00 | @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Continued inquiry for ploughs, otherwise the market remains unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—There continues a fair export demand for lumber, and the local trade has also been good during the period under review. Dealers pay for cargoes as follows:

| | | |
|--|---------|------------|
| Merchantable worked rustic,..... | \$31 00 | to \$32 50 |
| Refuse do do..... | 20 00 | to 21 50 |
| Merchantable surfaced and rough clear..... | 28 00 | to 30 00 |
| Refuse surfaced and rough..... | 18 00 | to 20 00 |
| Merchantable beaded flooring..... | 28 00 | to 30 00 |
| Refuse do do..... | 18 00 | to 20 00 |
| Merchantable rough..... | 15 00 | to 16 00 |
| Refuse do do..... | 11 00 | to 12 00 |
| Fancy Pickets..... | 22 50 | to 25 00 |
| Rough Pickets..... | 15 00 | to 16 00 |

San Francisco Retail Market Rates.

THURSDAY NOON, November 16, 1871.

MISCELLANEOUS.

| | | |
|--------------------------|----|------|
| Butter, Cal fr. lb..... | 65 | @ 75 |
| Pickled, Cal fr. lb..... | 45 | @ 50 |
| do Oregon, lb..... | 45 | @ 50 |
| Honey, 100..... | 25 | @ 30 |
| Cheese, 100..... | 20 | @ 25 |
| Eggs, per doz..... | 15 | @ 20 |
| Lard, 100..... | 18 | @ 20 |
| Sugar, cr. 100..... | 12 | @ 15 |
| Brown, do..... | 10 | @ 13 |
| Beet, do..... | 10 | @ 13 |
| Sugar, Map. lb..... | 25 | @ 30 |
| Plums, dried, lb..... | 15 | @ 30 |
| Peaches, dried, lb..... | 15 | @ 30 |

PRODUCE, ETC.

| | | |
|-----------------------|----|------|
| Codfish, dry, lb..... | 8 | @ 10 |
| Flour, ex. 100..... | 45 | @ 50 |
| Superfine, 100..... | 45 | @ 50 |
| Corn Meal, 100..... | 30 | @ 35 |
| Wheat, 100..... | 25 | @ 30 |
| Oats, 100..... | 15 | @ 20 |

FRUITS, VEGETABLES, ETC.

| | | |
|----------------------------|------|--------|
| Pine Apples, 100..... | 25 | @ 30 |
| Bananas, 100..... | 3 00 | @ 3 50 |
| Cal. Walnuts, lb..... | 20 | @ 25 |
| Cranberries, 100..... | 75 | @ 100 |
| Cranberries, 100..... | 75 | @ 100 |
| Pears, table, 100..... | 75 | @ 100 |
| Plums, Cherry, 100..... | 6 | @ 8 |
| Strawberries, lb..... | 37½ | @ 50 |
| Oranges, 100..... | 100 | @ 120 |
| Lemons, 100..... | 100 | @ 120 |
| Limes, 100..... | 100 | @ 120 |
| Figs, dried, 100..... | 100 | @ 120 |
| Asparagus, wh. 100..... | 50 | @ 60 |
| Artichokes, 100..... | 50 | @ 60 |
| Brussels sprouts, 100..... | 50 | @ 60 |
| Beets, 100..... | 20 | @ 25 |
| Potatoes, 100..... | 2 | @ 3 |
| Potatoes, sweet, 100..... | 4 | @ 5 |
| Broccoli, 100..... | 50 | @ 60 |
| Artichoke, 100..... | 1 00 | @ 1 20 |
| Cabbage, 100..... | 75 | @ 100 |
| Carrots, 100..... | 10 | @ 15 |
| Celery, 100..... | 75 | @ 100 |
| Cress, 100..... | 20 | @ 25 |
| Dried Herbs, b'n 25..... | 25 | @ 50 |
| Egg Plant, 100..... | 12½ | @ 15 |

POULTRY, GAME, MEATS, ETC.

| | |
|---------------------------|-------|
| Chickens, apiece 50..... | @ 75 |
| Turkeys, 100..... | @ 75 |
| Ducks, wild, 100..... | @ 75 |
| Tame, do..... | @ 75 |
| Teal, 100..... | @ 75 |
| Geese, wild, pair 75..... | @ 100 |
| Tame, pair 25..... | @ 100 |
| From Chicago..... | @ 100 |
| Hens, each..... | @ 75 |
| Snipe, 100..... | @ 75 |
| English, do..... | @ 75 |
| Venison, 100..... | @ 75 |
| Quails, 100..... | @ 75 |
| Pigeons, dom. 100..... | @ 75 |
| Wild, do..... | @ 75 |
| Hares, each..... | @ 75 |
| Rabbits, tame..... | @ 75 |
| Wild, do..... | @ 75 |
| Squirrel, pair..... | @ 75 |
| Beef, tend, 100..... | @ 75 |
| Sirloin and rib..... | @ 75 |
| Cornd, 100..... | @ 75 |
| Smoked, 100..... | @ 75 |
| Pork, rib, etc..... | @ 75 |
| Chops, do..... | @ 75 |
| Veal, 100..... | @ 75 |
| Cutlet, 100..... | @ 75 |
| Mutton chops..... | @ 75 |
| Leg, 100..... | @ 75 |
| Lamb, 100..... | @ 75 |
| Tongues, beef, ea..... | @ 75 |
| Tongues, pig, ea..... | @ 75 |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

| | |
|--|--------------|
| SOLE LEATHER.—Eastern shipments still keep the market firm and the demand good. | |
| City Tanned Leather, 100..... | 26@29 |
| Santa Cruz Leather, 100..... | 26@29 |
| Country Leather, 100..... | 25@28 |
| French stock comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm. | |
| California kip and calf skins are still scarce and high. | |
| Jodot, 8 Kil., per doz..... | 60 00@ |
| Jodot, 11 to 15 Kil., per doz..... | 76 00@ 95 00 |
| Jodot, second choice, 11 to 15 Kil., per doz..... | 60 00@ 80 00 |
| Lemoine, 16 to 19 Kil., per doz..... | 95 00@ |
| Levin, 12 and 13 Kil., per doz..... | 88 00@ 70 00 |
| Cornellian, 16 Kil., per doz..... | 72 00@ |
| Cornellian, 12 to 14 Kil., per doz..... | 65 00@ 70 00 |
| Ogerau Calf, 100..... | 54 00@ |
| Robert Calf, 7 and 8 Kil..... | 35 00@ 40 00 |
| French Kips, 100..... | 1 00@ |
| California Kip, 100..... | 65 00@ 80 00 |
| Eastern Wheel Stuffed Calf, 100..... | 80 00@ 1 25 |
| Eastern Bench Stuffed Calf, 100..... | 1 10@ 1 25 |
| Eastern Calf for Backs, 100..... | 1 15@ 1 25 |
| Sheep Roans for Topping, all colors, 100..... | 8 00@ 13 00 |
| Sheep Roans for Linings, 100..... | 5 50@ 10 50 |
| California Russett Sheep Linings..... | 1 75@ 5 50 |
| Best Jodot Calf Boot Legs, 100..... | 5 25 |
| Good French Calf Boot Legs, 100..... | 4 50@ 5 00 |
| French Calf Boot Legs, 100..... | 4 00 |
| Harness Leather, 100..... | 30 00@ 37½ |
| Fair Bridle Leather, 100..... | 48 00@ 72 00 |
| Skirting Leather, 100..... | 34 00@ 37½ |
| Welt Leather, 100..... | 30 00@ 50 00 |
| Buff Leather, 100..... | 17 00@ 21 |
| Wax Side Leather, 100..... | 18 00@ 20 |

Wool Prices in New York.

BROWN'S CIRCULAR, November, 1871.

DOMESTIC FLEECES.

| | |
|---|-------|
| NEW YORK, MICHIGAN, INDIANA AND WISCONSIN. | |
| Choice Set'd Saxony Fl. @ Quarter-bld Fleece..... | 57@60 |
| Saxony Fleece..... | 63@65 |
| Common Fleece..... | 55@58 |
| 3/4 and Full-bld Merino..... | 62@65 |
| Combining Fleece..... | 67@70 |
| Half-bld Fleece..... | 58@63 |

OHIO, PENNSYLVANIA AND VIRGINIA.

| | |
|---|-------|
| Choice Set'd Saxony Fl. 70@75 Quarter-bld Fleece..... | 60@63 |
| Saxony Fleece..... | 65@67 |
| Common Fleece..... | 58@60 |
| 3/4 and Full-bld Merino..... | 62@65 |
| Combining Fleece..... | 68@72 |
| Half-bld Fleece..... | 62@65 |

IOWA, VERMONT AND ILLINOIS.

| | |
|------------------------------|-------|
| 3/4 and Full-bld Merino..... | 55@60 |
| Quarter-bld Fleece..... | 64@67 |
| Combining Fleece..... | 65@67 |

MISSOURI, KENTUCKY AND TENNESSEE.

| | |
|----------------------|-------|
| Wasbed Fleece..... | 58@65 |
| Unwashed Fleece..... | 48@51 |
| Canada Fleece..... | 58@63 |

TUB-WASHED WOOL.

| | |
|-------------------------|-------|
| Choice..... | 72@75 |
| Inferior and Burry..... | 62@68 |
| Fair..... | 68@72 |

PULLED WOOL.

| | |
|------------------------------|-------|
| N. Y. City extra Pulled..... | 48@50 |
| Country extra Pulled..... | @ |
| N. Y. City super Pulled..... | 60@63 |
| Country super Pulled..... | @ |
| N. Y. City No. 1 Pulled..... | 32@34 |
| Country No. 1 Pulled..... | @ |
| Lamb's Wool..... | 60@65 |
| Canada Pulled..... | @ |
| Western super and ext..... | @ |

CALIFORNIA.

| | |
|---------------------------------|-------|
| Spring Clip, fine..... | 40@45 |
| Fall Clip, lg gds & b'ry..... | 30@37 |
| Spring Clip, medium..... | 40@45 |
| Extra Pulled..... | 52@57 |
| Spring Clip, lg gds & b'ry..... | 36@40 |
| Super Pulled..... | 52@57 |
| Fall Clip, A. 1..... | 37@40 |
| Low Pulled..... | 34@42 |

TEXAS.

| | |
|-----------------|-------|
| Fine..... | 42@45 |
| Inferior..... | 36@38 |
| Medim..... | 42@45 |
| Very Burry..... | 33@36 |
| Low..... | 37@40 |

FOREIGN WOOLS.

| | |
|-----------------------------|-------|
| Cape of Good Hope..... | 40@45 |
| Buenos Ayres Merino..... | 33@37 |
| Mestiza Pulled, X & XX..... | 75@80 |
| Buenos Ayres Mestiza..... | 31@35 |
| Mestiza Pulled, low gr..... | 68@72 |

A VALUABLE JOURNAL FOR OUR FARMERS AND STOCK GROWERS.—The PACIFIC RURAL PRESS, published by Dewey & Co., of San Francisco, a weekly journal of sixteen pages, copiously illustrated, and devoted to the interests of agriculture and stock-raising, should have a wide circulation in Montana. Wm. H. Murray, agent for this admirable sheet, is at present in the Metropolis, and will remain here during the week, soliciting subscriptions. The price, only \$4 per annum, places the RURAL PRESS within the reach of hosts of our people concerned in agriculture and stock-growing pursuits, and that it will be generally adopted into their households we entertain little doubt. Mr. Murray, after canvassing this city and vicinity, will visit the Gallatin and other sections of the Territory, and get up subscription lists in each locality.—*Helena Herald.*

Go to the Best.—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of

To Tourists.

Your attention is called to the fact that Three Prominent Places of Resort can be visited in one trip, accessible the year round, viz:

CRYSTAL SPRINGS, PESCADERO, SANTA CRUZ.

Pescadero—Fifty-two miles from San Francisco—is one of the most delightful places of resort on the Pacific Coast. Its Beautiful Drives, Beaches of Moss, Pebbles and Shells, Forests, Sparkling Streams, Hunting and Fishing, cannot be surpassed.

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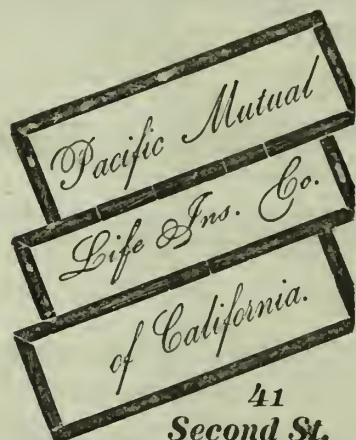
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ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M. W. Grand Lodge, F. A. M. of the State of California, at its Annual Communication, October, 1870. Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the Masonic Mirror, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said Masonic Mirror to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA. At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:

Resolved, That we recommend the Masonic Mirror, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY. At the communication of the M. P. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the Masonic Mirror, published in this city be the official organ of this Grand Consistory.

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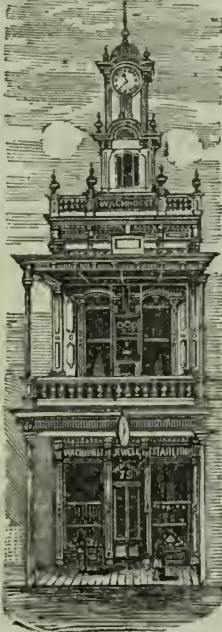
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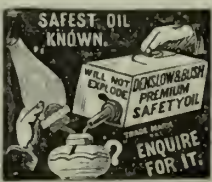
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This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

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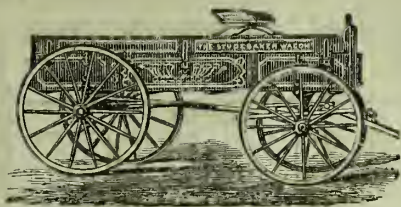
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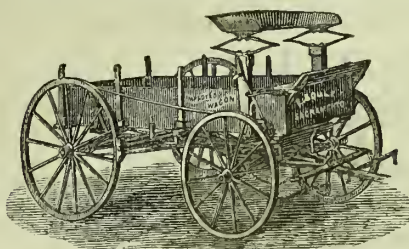
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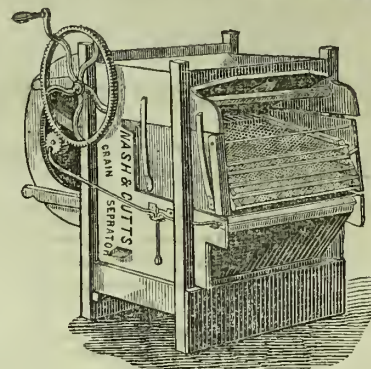
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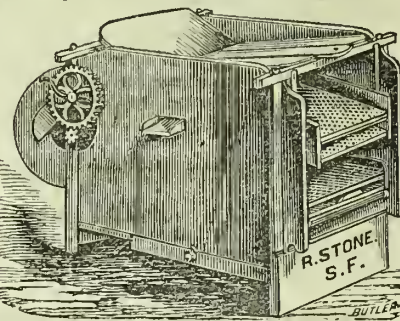
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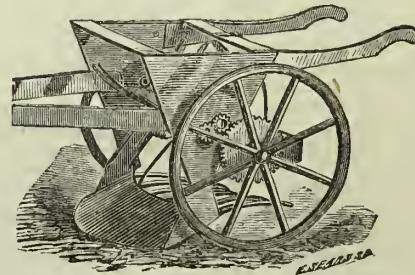
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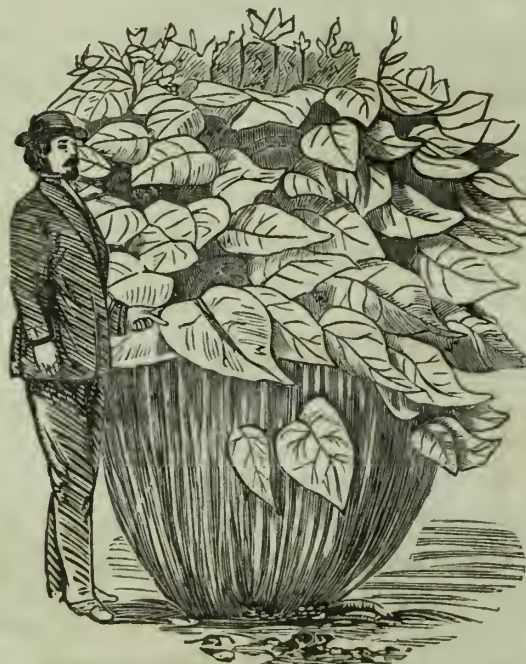
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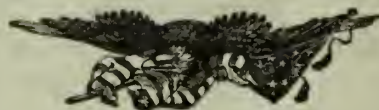
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Volume II.]

SAN FRANCISCO, SATURDAY, NOVEMBER 25, 1871.

[Number 21.

IMPROVED CORN HUSKER.

The great extent of the Indian corn crop throughout the United States, makes of the utmost importance any invention by which the labor incurred in its production may be lessened. The slow and tedious process of husking the ears is a great item of expense, and has led to the introduction of many different machines for this purpose, none of which have heretofore fully surmounted all the difficulties encountered, but have proved for the most part failures. The machine, however, rep-

or hindrance, to the surprise and satisfaction of all farmers and others, who witnessed their operations. They were awarded a diploma—the first premium—for articles not in the list of awards offered.

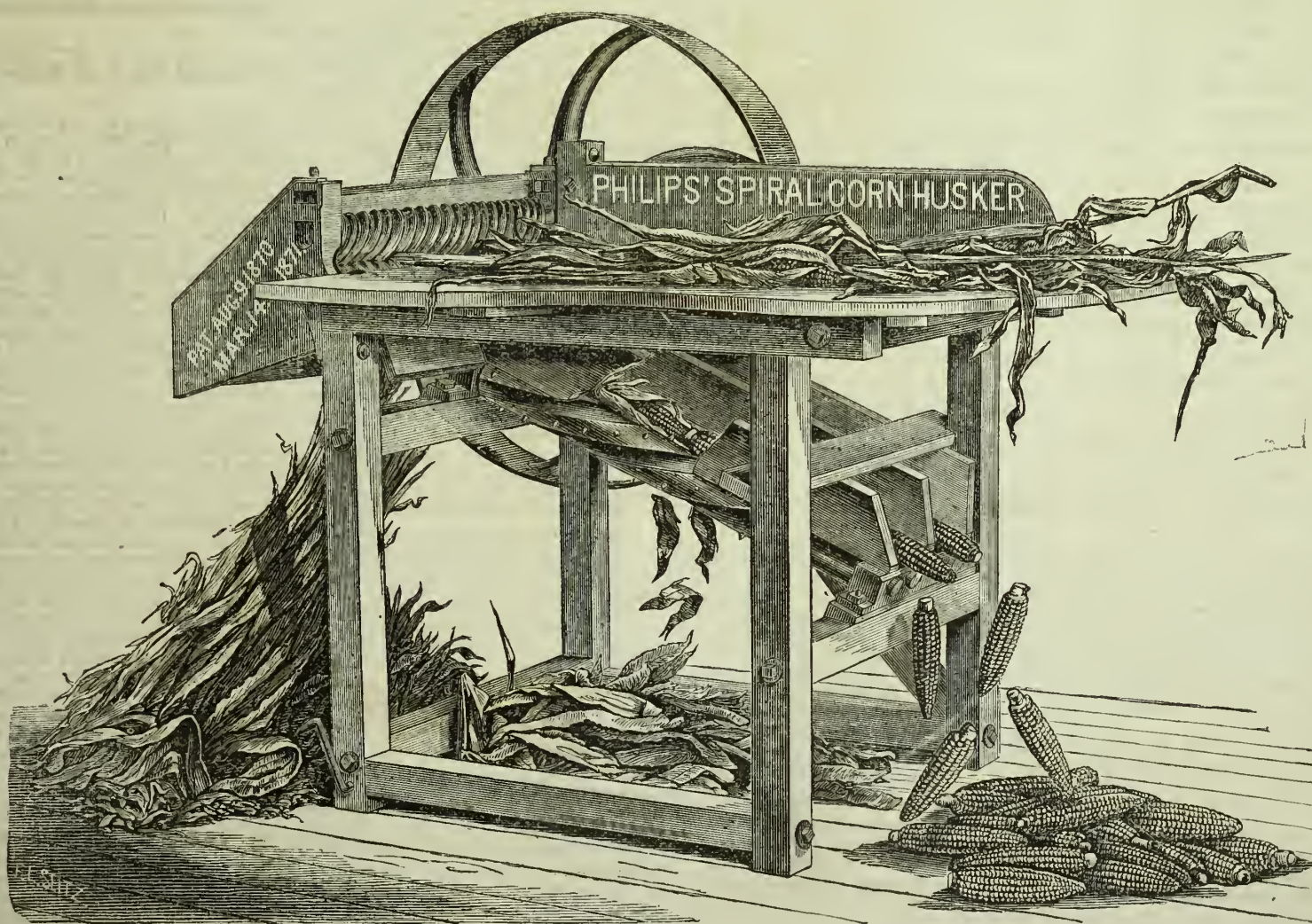
This machine has taken no less than eight first premiums this season, at fairs in the Eastern States. At the fair at Rochester, N. Y., it was awarded the first premium of \$10, besides a \$50 premium for the most useful invention relating to agriculture, patented during the last three years.

The larger machines for husking from the stalks, can be conveniently run by

Upon the surface of one or both the husking rolls, are spiral depressions or grooves, which answer the double purpose of allowing spikes to be put upon the opposite roll corresponding with the depressions or grooves, and allowing the ear to settle down between the rolls, so that the grip upon the husk may be more certain. These depressions and spikes being placed spirally upon the rolls, grip the husks first at the end of the ear, and continue the grip to the opposite end, making the process of stripping the husk from the ear very similar to that of hand husking.

Montgomery street, under the Grand Hotel, who are agents for the sale of the machine and for State rights for the Pacific States.

GOPHERS NEAR SACRAMENTO.—The Sacramento valley has been comparatively free from the ravages of this destructive pest, but the late dry seasons have been so favorable to their multiplication that they are becoming very plenty and troublesome. In some localities on the American river, only a few miles from Sacramento, they have destroyed entire patches of carrots and are doing considerable damage to the



PHILLIPS' SPIRAL CORN HUSKER.

resented in the accompanying cut, has shown itself perfectly successful in practical use, and will be of the utmost interest to our readers.

According to the census reports the annual yield of Indian corn in California several years since, was 1,000,000 bushels. It is probably twice that amount at the present time, and the introduction of corn huskers will be of great advantage to our farmers. Both the hand and power machines, of this patent, were worked successfully at the last California State Fair. They were set up without any assistance from an experienced artisan, just as they were received from the manufactory in New York, and were run without difficulty

any of the ordinary horse-powers.

The machine consists of a frame about three feet long and two and one-half feet in width, made of three-inch joists. Across one end and near the top of the frame are placed two picking rolls, formed with screw threads on each roll, and gearing into each other.

The stalks are fed between these rolls and fall in front of the machine, in good condition for binding, and divested of every ear, great or small.

The ears, as they are separated from the stalk, fall upon the husking rolls placed lower down on the frame, at right angles to the picking rolls and in an inclined position.

The machine does its work thoroughly, stripping the husks and silk from every ear and nubbin, whether it be large or small, hard or soft. The stalks are delivered in a crushed state and in a much better condition for fodder than when left solid, and they also rot quicker in the manure heap. The husks are delivered in so good condition as to be worth from \$50 to \$70 per ton for industrial purposes in some Eastern places.

An ordinary two-horse power used for thrashing will drive the machine, and with the hand machine two men can husk 400 bushels per day.

The machine can be seen at the store of Weister & Co., patent brokers, No. 17 New

beets on the grounds of the Sacramento Beet Sugar Company.

We are also informed that they have worked into and under the levee east of the city, so much so as to demand a close inspection by the levee Commissioners, who, we hope, will be able to prevent all damage from the effect of their holes. They are dangerous little animals to levees, often causing crevices or breaks, through which large sections of country are overflowed and much damage done. Many cases of this kind have occurred in the valley of the Mississippi.

THE footprints of inventors are the foot-holds of progress.

MECHANICAL PROGRESS.

A New Kind of Wall.

A new kind of wall is coming into use in England, the advantages claimed for which are the very important ones of non-absorbency of moisture, non-conduction of heat, economy of space, a washable surface, and withal cheapness. Over a framework of strong cross wires, of about one-eighth of an inch thick, there is woven, by a powerful pressure, fibrous matter, which is saturated with a solution that renders it fireproof. It is then subjected to a very powerful pressure. A coating of light Scott's cement is then put upon it for inside facing, and of Portland cement for outside facing. By this means surfaces are made impermeable to moisture, smooth, and easily washed with water; thus saving the expense of repeated lime-washings. It is formed into slabs in iron frames, which are put together and closely and securely fastened with bolts. The slabs are from one and a half to four inches thick. They are found to serve as superior panelling for dividing walls and partitions. Where space is of importance, it has the advantage, perhaps, over concrete walling, in enabling a wall to be made of not more than one and a half or two inches in thickness, and yet its quality is said to greatly deaden sound.

ITALIAN SUBMARINE EXPERIMENTS.—An Italian named Foseli, has lately been experimenting, and successfully, with a new submarine vessel of his invention, in the presence of leading men of the Italian naval, scientific, and civil services. The invention consists of a construction of wrought-iron plates divided into three compartments, of which the lowest contains 1,000 pounds of ballast; the second or middle chamber is prepared to accommodate two persons; the third or uppermost chamber is filled with compressed air. This compressed air, by means of ingenious machinery, is capable of supplying means sufficient to sustain the life of two persons 50 hours.

At one of the late experiments, this vessel descended to a distance of 38 fathoms below the surface of the water, and remained submerged for 22½ minutes, without the slightest discomfort being experienced by the navigators. The specific gravity of the ballast serves to retain the vessel in an upright position, and peculiarly simple machinery enables it to move in any direction. An attached illuminating arrangement renders objects within a large area perfectly visible. The intention of the inventor is to have four machines of different capacities; one for coral fishing, another for sponge and pearl fishing (requiring a deeper descent), another for exploring sunken vessels, and lastly, one for scientific investigation and warlike purposes.—*Artisan*.

The fact that life can be sustained below water for an entire day, or even longer, by means of an occasional spray of water within the vessel or diving-bell, as indicated in the Ryesson patent, has been fully established years ago, by experiments in New York harbor. This mode is much simpler and less costly than by the compressed air arrangement, as above described.

RUSSIAN SHEET IRON has been recently subjected to chemical examination in the metallurgical laboratory of the Royal School of Mines, and the analytical work has been executed by Dr. Percy's assistant, Mr. W. J. Ward. The occurrence of a peculiar carbonaceous mass, left after the solvent action of dilute hydrochloric or sulphuric acid, may reasonably be accounted for, Dr. Percy says, by the method of manufacturing Russian sheet iron, which he describes. The sheets are interstratified with charcoal powder, and bound up in packets, each of which is subjected to repeated hammering. Hence, it is easy to conceive how fine particles of charcoal should be beaten in over both surfaces of each sheet; and, if this be so, a relatively larger proportion of carbon should exist in the thin sheet, as is the case. Yet, that some of the carbon is combined, may be inferred from the fact that distinct hardening occurs after heating the metal to redness, and immersing it while hot in water, and especially in mercury.

A NEW ICE MACHINE.—It is said that a Prussian engineer has invented a machine which will produce ice without chemicals, merely by the compression and expulsion of air. A machine makes two tons of ice per day, and the capacity can be increased to 20 tons.

IMPROVED PROCESS FOR MAKING TUBES.—In making iron tubes, Mr. H. Kesterton, Birmingham, reduces pig-iron to the state of soft malleable iron by the Bessemer or other similar process, and casts it into a hollow cylindrical ingot. He takes this ingot while still very highly heated, and passes it through a series of pairs of grooved rollers set in different planes—say, alternately vertical and horizontal. The first pair of rolls takes the ingot, and reducing and elongating it, passes it to the second pair immediately beyond, and this pair passes it to a third pair, and so on, until the desired reduction is obtained. Each successive pair of rolls is driven at a surface speed greater than that of the rolls immediately in front, so that, allowing for the elongation of the tube, and the reduction of the section, equal quantities of metal may pass between all the pairs of rolls, gripping the ingot in equal times. A stationary mandrel passes between all the rolls, and carries a bulb at the nip of each pair of rolls.

A NEW IRON PROCESS.—The *Iron Age* notes a new iron process, now being practically tried—in the neighborhood of Pittsburgh, we presume. The ideas of the inventors, who have patented their process, are that iron ore can be reduced without the admixture of coal or the use of a blast, all the metallurgists to the contrary notwithstanding. The peculiar process consists in conducting a volume of steam, at the same pressure as that of the ordinary blast, into and over a coke fire, there decomposing the steam and reducing the ore by the additional heat, while sulphur and phosphorus are eliminated by the hydrogen, in the form of sulphuretted and phosphoretted hydrogen. No specimens of product yet on hand; when there are, they will be on exhibition in New York. Whether successful or not, says the *Age*, a trial furnace of a working size is being built, and the matter will soon be an accomplished fact or another fizzle.

STEEL HORSESHOE NAILS are proposed by a Canadian inventor—the metal being formed for this purpose into bars by rolls, which reduce the steel to any desired thickness; and as steel is homogeneous, the plates can be cut in any and every direction. This being the case, instead of cutting sections, as when iron is used, the inventor makes strips of indefinite lengths from the steel, with the heads on both sides of the strips, and which are therefore entirely unlike the corrugated iron heretofore rolled for the ordinary horseshoe nails. This is considered quite an improvement; but though a variety of devices have from time to time been brought forward for producing a nail more perfectly adapted to ensure strength and durability to the shoe than has hitherto been the case by the old hand methods, it does not appear that the pointing of the nails in a superior manner, is, as yet, satisfactorily accomplished by machinery.

A REMARKABLE SAW.—The *Iron Age* speaks of what is called the "Lightning Saw," as follows: "A chestnut log, nine inches in diameter, was sawed off with his cross-cut saw, by two men, in three and three-quarter seconds, by three and a half strokes of the saw. It was then sawed across sixteen times in two minutes and sixteen seconds, or faster than a cord in nine minutes, including lost time. This saw differs from all the well known clearing teeth saws in use. Its teeth are all beveled blades for cutting, while clearing teeth are dust removers merely, requiring to be shortened, and are left full thickness of saw plate, as they do no cutting. The Lightning Saw is designed to cut timber by direct action both ways. This is accomplished by the form, spacing, dress and setting to cut in line of the two points of each M as one tooth. If one point of M tooth was set one way and one the other, the slant would ride and lift out the tooth.

EFFECT OF COLD ON IRON AND STEEL.—For many years, until quite recently, it has been almost an axiom among civil engineers that great cold tended to produce a brittle condition of iron and steel, and that by this hypothesis might be explained the alleged increase in the breakage of trees, axles and rails in railroad traffic.

According to the recent experiments of Joule and others, however, it would seem that iron and steel instead of being weakened by freezing weather, are actually capable of resisting greater shocks than when retained at a summer temperature. While not denying the fact of the greater frequency of such railway accidents in winter, Dr. Joule refers them to the increased hardness of the ground by freezing, by which the iron is subjected to a greater strain or shock than in summer.

SCIENTIFIC PROGRESS.

The Cause of Volcanoes.

The opinion of the old Wernerians, that volcanoes are due to chemical action, and not to supposed central fires, appears to be gaining ground. The question whether we are living on the cooled surface of a globe of molten liquid matter, with a thin shell of only 50 or 80 miles in thickness, or whether the earth is firm and solid to the depth of 1,000 miles or more, or to its very centre, is of no little interest to many timid minds, on the score of personal safety; but the chief importance to the scientist is the relation which the question bears to the character of volcanoes—whether they are fed from internal fires, or whether their most remarkable phenomena are the local and comparatively insignificant results of chemical action.

During the latter portion of the late Imperial rule in France, the former theory was quite in the ascendant in that country, kept so through the teachings and writings of M. Elie de Beaumont, who, by Imperial favor, was continued as the chief director of the French official geologists; although his opinions were not in unison with most of the distinguished French scientists. The fall of the Empire led to a change in this direction, and to a decided reaction in favor of the chemical theory of volcanic disturbances; which opinion has long been quite general among German and English geologists.

M. Fouque publishes an article in the April number of *Revue des Deux Mondes*, in which he takes strong ground in favor of the chemical theory, and endeavors to show that there is a complete series of gradations between the simple phenomena of the emission of inflammable gas, and the thermal *fumerole*, that nearly approaches to the true volcano—that the mere emission of gas may pass into the mud volcano, and the latter into the thermal *fumerole*; while the characteristics of the lost alternate with those of full volcanic action, in nearly every known volcano.

The usual products of volcanoes are just what would be expected were chemical action their cause. Indeed the peculiar action of the products, according to M. Fouque, is hard to explain on the theory of an igneous nucleus.

If the crust of the earth is but 50 miles in thickness, however hard it may be, it would, considering the immense diameter of the earth, be almost as elastic as a soap-bubble, while the interior fluid mass would be subject to tides like the ocean. The result would be that we should have regular earthquakes twice a day, all over the earth. This not being our experience, the theory of the 50-mile crust must, say the Wernerians, be given up as untenable, and we are compelled to fall back on the chemical theory for an explanation of the origin of volcanoes and earthquakes. Although much astronomical and physical reasoning has been introduced in efforts to solve the great question connected with volcanic phenomena, still, it must be admitted that the evidence thus far adduced is quite insufficient for fully sustaining either assumption. Daring generalizations are as unphilosophical in physics as in politics; hence the folly of dogmatism, regarding the origin of volcanoes or the theory of internal heat.

PURIFICATION OF FATS.—The *Comptes Rendus* gives an account of a process communicated to the French Academy by M. Boillet. Suet, or fat of any kind, is heated for three or four hours with lime water, the proportions being about half a gallon of lime water to 2½ lbs. of fat; it is then allowed to cool. As soon as the fat is sufficiently set, it is transferred to a linen or flannel bag, and the water and oleic acid squeezed from it by gradually increasing pressure, in a hydraulic press, or otherwise. He states that fatty matters thus treated lose all bad smell, and acquire remarkable whiteness and hardness, after standing a few days. If re-melted in water, acidulated with sulphuric acid, acetic acid, or vinegar, a fat is obtained which is "perfectly" purified, and can be applied to all purposes for which the best fats are employed.

TEST FOR BENZOLE.—For distinguishing genuine benzole, or that made of coal-tar, from that prepared from petroleum, Brandberg recommends us to place a small piece of pitch in a testing tube, and pour over it some of the substances to be examined. The genuine will immediately dissolve the pitch to a tar-like mass, while that derived from petroleum will scarcely be colored.

The "Psychic Force."

Dr. Crookes, in the last number of the *London Quarterly Journal of Science*, gives an elaborate article to sustain his alleged discovery of what he calls "psychic force," and details some further experiments, in addition to those given in a previous number of that journal, some account of which we reproduced in the Press in our issue of August 26th, 1871.

He braves the storm of ridicule which he has invoked, with a boldness and spirit of candor which shows that he is an earnest man, and one determined to persevere in his line of investigation without fear or favor. His position as a scientist, his acknowledged intellectual attainments and power, and the spirit of candor which he manifests under peculiarly trying circumstances, cannot fail to command the respect of all who are following him in his investigations, whether in a spirit of sympathy or with the view of criticism.

His latest experiments were conducted with more caution than those first published, while their apparent results are even more remarkable. In his last communication he remarks that so far as his other occupations will permit, he proposes to continue his experiments in various forms, and report from time to time their results. In the meanwhile he hopes that others will be induced to pursue similar investigations in a scientific manner.

The Doctor applies some caustic remarks to the tender skin of Prof. Stokes, who presumes upon a severe criticism of the experiments, while he refuses to witness them in person, when he has ample opportunity and is urged to do so.

We shall watch with interest the progress of these experiments and the discussions which grow out of them, and report, thereupon, whenever anything definite or of special importance shall have been eliminated.

Mechanical Effect of Magnetization.

The following is from a lecture by Prof. Tyndall:—"The effect I wish to make manifest was discovered by Mr. Joule, and was subsequently examined by MM. De la Rive, Wertheim, Marian, Matteucci, and Wartmann. It is this:—At the moment when the current passes through the coil surrounding the electro-magnet, a clink is heard emanating from the body of the iron, and at the moment the current ceases a clink is also heard. In fact, the acts of magnetization and demagnetization so stir the particles of the magnetized body that they, in their turn, can stir the air and send sonorous impulses to our auditory nerves. The sounds occur at the moment of magnetization, and at the moment when magnetization ceases; hence, if a means be devised of making and breaking, in quick succession, the circuit through which the current flows, we shall obtain an equally quick succession of sounds. I do this by means of a contact-breaker which belongs to a Ruhmkorff's induction coil. A thin bar of iron stretches from one of the bridges of this monochord to the other. This bar is placed in a glass tube, which is surrounded by copper wire. The contact-breaker is placed in a distant room, so that you cannot hear its noise. The current is now active, and every individual in this large assembly hears something between a dry crackle and a musical sound issuing from the bar in consequence of its successive magnetization and demagnetization."

AN EIGHTH RIB IN MAN.—Mr. Perrin makes a communication to *Nature* in regard to the occasional occurrence of an eighth true rib in man; although it has been generally considered that seven form the absolute limit. This eighth rib is sometimes found on one side only, still more rarely on both sides, and it is suggested by Mr. Perrin that cases of this abnormal character possibly occur more frequently than has been suspected. The maximum normal number of sternal ribs appears to be ten, but in the higher primates the tenth, ninth, and eighth are successively lost in the transition from their lower to the higher forms. In the carnivora the sternal ribs are usually nine, although the Esquimaux dog, the Arctic wolf, and the *proteles* have only eight. The common badger of Europe has ten true ribs.

STILL ANOTHER.—In our notice of the recently discovered asteroids in last week's Press, we inadvertently omitted the most recently discovered one—the 117th, which was made on the 14th of Sept. by Dr. Luther Bilk. It was equal in brilliancy to a star of the 11th magnitude.

CORRESPONDENCE.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.—CONTINUED.

[By our Traveling Correspondent.]

San Jose.

The city of San José, now the fourth city in the State in point of population, contains upwards of 10,000 inhabitants; the township, however, which extends beyond the city limits, contains 12,552. It is situated a short distance above the head of the Bay of San Francisco and 50 miles by rail from the metropolis. It is one of the most beautifully laid out cities in the State, containing several public parks, most of which, however, are still unimproved. The streets are particularly worthy of notice from their extreme width, smooth appearance and freedom from dust.

Gas Works.

San José Gas Co., capital stock \$100,000, James Hagan and Austin Roberts directors, has two gas holders with a capacity of 27,500 cubic feet. English Cannel coal is the kind used for the manufacture of gas. The average run of this gas is 20 Kennel par; it sells at \$7 per thousand. The principal streets of the city are lit by gas furnished by this company; 5 men are regularly employed. The stock is held by capitalists here.

Public Buildings.

Among these its courthouse is prominent, it being one of the finest structures of its kind in the State. From the dome a most magnificent view of the valley can be had, and it is visited by hundreds daily between the hours of 10 and 4, except during the session of court when visitors are not allowed admittance. Like all other points from which a view may be had, its dome is decorated (?) by the names of hundreds of visitors who emulate the example of George Washington at the Natural bridge, without the danger, by carving their names on the woodwork within their reach. The building is fire-proof (not Chicago fire-proof) being built almost entirely of stone, brick and iron. This spacious building contains offices for all the different departments of the county, including the jail, in the rear; all the offices are handsomely fitted up in the most convenient manner. The cost of this structure, in the absence of statistics, I am unable to state, but it reflects great credit on the enterprising people of the town who have built a monument to their energy which will last long after they have gone. This county like many others has incurred considerable indebtedness which, however, the perseverance of the people and the efficiency of their public officers, will soon obliterate, as the following summary of their industries and manufactures will sufficiently prove, showing as it does, their enterprise.

New Buildings.

At present there are some 50 prominent new structures in course of erection, among which we may mention two fine banks on opposite corners of First and Santa Clara Sts., which will add greatly to the appearance of that portion of the city, and will not cost less than from \$50,000 to \$75,000 each when completed. The State Normal School building, now nearly finished, will add one more to the large number of fine buildings, and probably will be the most commodious and costly of any of its kind in the State. From 45 to 50 more are going up which will cost from \$5,000 to \$15,000 each, showing the advance and increase in importance of the place.

Its Hotels.

The Auzeais House is a model structure and in every other particular except size will compare favorably with the finest hotels of San Francisco. The New York Exchange, a frame house, built some five or six years since, is equal to the best of country hotels and what it lacks in outward appearance is pretty well made up by the courteous attention paid to the traveling public, inside, by its urbane proprietor, Mr. M. Corcoran.

Business Men.

Foremost among these in enterprise is

Mr. T. W. Spring, of Spring & Co., auctioneers and commission merchants, wholesale and retail dealers in everything perishable. They occupy the building at the corner of Market and Santa Clara streets, 79x137½, two stories high, and built in the most substantial manner, so as to make it earthquake proof, an important feature in California buildings. This auction store is co-operative and they deal in clothing, boots, glass and crockery, in fact everything from a needle to a plow. T. W. Spring & Co. commenced business in 1864 a few doors east of their present location, with a capital of \$5,000, and by a system of extensive, judicious and liberal advertising, have built up a trade that now requires a capital of \$200,000, frequently having in their large store rooms merchandise of double that value. They now employ about 20 salesmen and do a business of from \$300,000 to \$400,000 per annum. Mr. Spring came to California with Magruder's Battery in 1850, and after the usual ups and downs of a California pioneer came to San José as a salesman for A. Hayes, at a salary of \$100 per month. By strict attention to business he worked himself in a short time into an interest in the firm and in a few years started "on his own hook," as before mentioned, with a capital of \$5,000, and now does the largest legitimate retail trade in the State, outside of San Francisco. Their names are known for a circle of a hundred miles in either direction from the location of their business. This extended notice of one single firm may be excused as I merely intend it for the benefit of young beginners in business, so that they may profit by the example of Mr. Spring, whose success may be attributed entirely to being liberal with the different legitimate advertising mediums.

Extensive Merchandising.

On the opposite corner from Mr. S. are located the establishments of Mr. Edward Mahoney, who has three separate stores, one following the other, from the corner of Santa Clara St. running south on Market. The first is a very large and well stocked dry goods establishment; the next is devoted to the sale of boots and shoes; while in the third the manufacture of clothing to order is carried on. Some 20 men are employed in the different departments of the three places, and such is the excellence of the system that the different stores are run independently and smoothly. Mr. M. superintends the whole.

Among the extensive boot and shoe dealers and one of the neatest fitted up places on First street is the store of Colborne & Wilcox, who are also dealing in gents furnishing goods. Judging by the looks of their establishment they are doing their portion of the business. Principal dealer in produce, wheat, oats, barley, ground feed, bran, potatoes, onions, beans, etc., is Mr. J. Canavan, No. 280 Santa Clara St., who is doing a good business in his line.

Hardware and Agricultural Implements.

The most prominent among the dealers in this line are A. Pfister & Co., and Henry B. Alvord; the former dealing also extensively in groceries and provisions; the latter dealing exclusively in shelf hardware, iron, steel and agricultural implements. Between these two firms the entire valley is supplied with articles under this head. A. Pfister & Co. also own a fine flouring mill on the corner of 4th and William Sts., giving employment to 7 men.

Lumber Interests.

The number of feet sold for building purposes in the vicinity exceeds 10,000,000 annually. The prominent dealers in this line are as follows: W. P. Dougherty & Co., cor. 3d and San Fernando Sts. have on hand at present 750,000 feet. Their retail sales last year amounted to 5,000,000 feet. This firm own three mills run by steam, situated respectively, 18, 20 and 21 miles southwest of San José in the Santa Cruz mountains. Just now only one is running, employing 20 men. S. H. Chase on 4th street, has on hand 500,000 feet; sales last year 1,500,000. Owns a steam mill situated near Lexington, some 16 miles west. It was burnt down about two months ago but has since been rebuilt. Twenty-one men are employed at this mill. W. F. Ellis is the manager of the yard at San José. I. W. Chase on the same street has on hand 450,000 feet; annual sales 1,500,000 feet. Milton Moree, manager in San José. Lumber at this time is selling at from \$20 to \$35 per M., according to quality.

Foundries.

There are two principal iron foundries, Enright's and the San José Foundry. These two firms having put in the same bid are at present engaged upon the iron

work of the two banks before mentioned, and no finer work has ever been turned out in your own city. They each employ from 16 to 30 men, and are doing all kinds of work usually done in the foundry and machine line. The former makes a specialty of steam threshers; and the latter ornamental fountains and patent windmills, wagons, cast and steel plows and general agricultural implements; D. McKenzie, proprietor. Of the

Sash, Door, and Blind Manufactories.

the principal one is that of Metcalf & McLellan, situated on the corner of San Fernando and Fourth streets. Their works cover half a block, and all the intricate machinery necessary to perform the different operations of the business is as complete in this establishment as in any other on the Pacific coast. They have six different moulding machines. They also run in connection with this, a machine shop doing all kinds of iron work, and give regular employment to from 50 to 75 men. The machinery is run by a 65-horse power engine.

Carriage Manufactory.

W. T. Adel, No. 263 First street, opposite New York Exchange, is doing an extensive business in the above mentioned line; doing everything from the blacksmithing to the trimming. He has been established here some nine years, and has orders for work extending even to your city. He gives employment to from 10 to 15 men. Mr. A. T. Stowe, who obtained a patent through your office for an equalizing carriage-spring in December, 1868, is now putting up a model and making arrangements for the manufacture of the same, through this establishment. If your correspondent has any judgment in such matters, it is his opinion that it will come into general use, for a weight placed in any portion in a wagon or carriage presses equally upon each spring, an advantage much needed, but heretofore unattainable.

Excelsior Marble Works.

which started one year ago at this place by the enterprising sculptors and modellers, Messrs. Delong & Combs, employ regularly six men, and are turning out some of as fine work as is seen anywhere in the State. Mr. Combs, of this firm, holds three diplomas for sculpture taken at Eastern fairs, against a score of competitors. Their work only requires to be seen to be appreciated.

Cigar Manufactory.

Mr. Lewis Schoen does the principal business in this line. He manufactured last year about 300,000 cigars; but is making preparations to double that number this year; employs regularly eight white men, and does one of the largest wholesale and retail businesses in this section of the State, his trade extending as far south as Monterey.

Flouring Mills.

The Orange Flouring Mill, corner Santa Clara and River streets, A. Poulin & Co., proprietors, is run by a steam engine of 40-horse power. There are five run of burrs—three for wheat and two for feed. Capacity 10 barrels per hour. Moody's mill, corner Santa Clara and Third streets, Moody & Bro., proprietors, is run by an engine of 40-horse power; has two run of burrs, and a capacity of 120 barrels of flour in 24 hours, besides 20 tons of feed; six men are regularly employed. Flour at this writing is worth \$7.62½, and \$2.55, and \$2.60 is being paid for first-class wheat.

Silk Manufactories.

The principal of which, the California Silk Manufacturing Co., presided over by Jos. Neumann, you have noticed extensively from time to time, and I will therefore pass it for the present. The Pacific Silk Manufactory started in October last, Clayton & Higgenbotham, proprietors, is situated on Thirteenth street; at present only manufacturing sewing silk from reeled silk imported from China. The raw material costs \$7.50 per pound to import, and is worth \$14 to \$16 when finished. At present their machinery is light and they are doing a safe business, manufacturing only to order.

San Jose Woolen Mills,

R. S. Peckham, President, and W. H. Sables, Secretary, has a capital stock of \$200,000, and is located within the city limits, about one mile from the centre of the town. These works are among the most extensive of their kind in the State. The company own five acres of land surrounding their works. The main building is 52x110 feet, three stories high, and has a most complete outfit of machinery, running six sets of cards, and other machinery to keep them in operation. They manufacture principally cassimeres, tweeds and flannels. The capacity is 12,500 yards per

month, wholesaling in your market from 90 cents to \$1.50 per yard. The quality of their fabrics is excellent, and from many designs and patterns original with themselves; financial success is merely a question of time. Fifty men are employed. The San Francisco office is 319 California street.

Real Estate.

The increase in the value of real estate in this place has been about 100 per cent. in five years, and of outside lands from 50 to 200 per cent. James A. Clayton, real estate agent and auctioneer, is doing a thriving business in his line, and has his office on Santa Clara street, opposite the Auzeais House. Parties desirous of buying land in this vicinity, will find this gentleman's advertisement in the appropriate columns.

Street Railroad.

S. A. Bishop, projector and proprietor of the first narrow-gauge street railroad on the Pacific Coast, is about starting to lay the track for the same in this city. The rails and cars are to be entirely of California manufacture, and the iron is now being rolled at the Pacific rolling mills in your city. Kimball & Co. are making the cars. The franchise granted extends from the extreme southern limits of the city, running along First street, with a branch to the San José depot. The franchise granted by the Board of Supervisors of the city and county, requires that 1½ miles of the same be completed and in running order by April 20, 1872. The entire length will be, when completed, 2½ miles, and the fare limited to five cents. Success to Mr. Bishop and his enterprise.

Skating Rink.

Skating rinks have become like theatres, to be permanent places of amusement, and San José, to be up with the times, has a fine one on St. John street, 50x170 feet, which cost \$5,000 to erect. It is leased by J. W. Varney, Esq., who is having a fine run of business three evenings in the week, and every day from 9 A. M. to 5 P. M. Its evening attendance averages about 75 skaters.

Cracker Bakery.

Cleal Bros., of this city, are running one of the most extensive bakeries in the southern counties, making crackers of every description, their market extending to several of the counties south, beside supplying home consumption. The machinery is run by horse-power. As a matter of interest, we name the prices of the different styles of crackers manufactured at this establishment: Jenny Lind (sweet), 9 cents per pound; arrowroot 10; Shoo-fly, 12; butter crackers, 9½; pilot, 6; ginger-snaps 10.

Eagle Coffee and Spice Mills,

situated 373 Santa Clara street, Barrett & Hunt, proprietors, run their works by an Ericson caloric engine. They have all the improved machinery for pulverizing and reducing for the market all kinds of spices, such as coffee, pepper, mustard, cloves, allspice, sage, cinnamon, mace, ginger, etc. Ground coffee, 25 cents per pound by the case; roasted Costa Rica, 30 cts. by the sack; roasted and ground Java, each 35 cts. by the sack; black pepper in bottles, \$1.25 per dozen, in tins 30 cts. per pound; mustard in bottles \$1.50 per doz., in tins 35 cts. per pound; allspice \$1.25 per doz., in tins 30 cts. per pound; cinnamon \$1.50 per doz., in tins 50 cts. per pound; ginger and cloves \$1.40 per doz. or in tins 40 cts. per pound; mace \$1.50 per doz., in tins \$2 per pound; cayenne pepper, \$1.50 per doz., in tins 78 cts. per pound.

L. P. MC.

NEW CROP.—The new crop of beet sugar is just out from Bonsell's sugar factory at Alvarado, and it is of a decidedly good quality. The mill runs eight months during the year. Hitherto, it has taken three million dollars to keep this State in sugar. Now, there is a prospect to export sugar from here in less than five years time. This new crop of beet sugar is of a white, granulated substance, and tastes sweeter, if anything, than imported sugar for two reasons, but chiefly because it is Californian.—*Oakland Termini.*

PARTIALITY.—R. C. Geer inform us that the frosts, which quite recently nipped the vines about Salem, did not visit the "hill country." In the region between Silverton and Sublimity the vines are still fresh and green. Can any one explain this manifest partiality of Jack Frost?—*Willamette Farmer.*

ONE of the largest hotels in Philadelphia is owned and managed by a woman, and in one store, among several large ones owned by women, a business of over \$100,000 a year is done.

HORTICULTURAL.

Some Tropical Fruits now being, or likely to be, Cultivated in California.

[Written for the Press, by E. J. HOOPER.]

The Plantain (*Musa paradisiaca*).

This tree is of a good size, and grows, with a herbaceous stem, to the height of 15 or 20 feet. There is a thick cluster of leaves at the top. The fruit is about an inch in diameter, and 8 or 9 inches long. As it ripens, like the Banana, it turns yellow; and, when ripe, it is filled with a pulp of a luscious sweet taste. It may be said to serve the natives and negroes, in the countries where it grows, for bread; some white people there prefer it even to the yams and Cassada bread. The spikes of fruit are often so large as to weigh upwards of 50 pounds. The fruit is generally cut before it is ripe, and warmed in the embers. The leaves are used for many purposes, as for napkins and table cloths, and are food for hogs.

The Banana (*Musa sapientum*).

The tree of this fruit differs from the Plantain, in having its stalks marked with dark purple stripes and spots. The fruit is shorter, straighter and more round; the pulp is softer, and of a more luscious taste, so that it is generally eaten by way of dessert, as we all know, and seldom used in the same way as the Plantain, and therefore it is not cultivated in the West Indies, Africa, etc., in such abundance. In Guinea, both these trees grow naturally, from whence they were, probably, taken to the West Indies and other warm climates. They grow to perfection in about ten months from their first planting to the ripening of their fruit; when their stalks are cut down many suckers will come up from the root, which in six or eight months will produce fruit; so that by cutting down the stalks at different times, there is a constant succession of fruit all the year. The plants require a good deal of water, either by rain or irrigation. I imagine the Banana would not be liked quite so much where they grow, had the people more variety, like ourselves, of other fine fruits. This plant is, of course, very successfully cultivated in our conservatories where there is not sufficient natural heat outside. As I observed in my first paper on these fruits, wherever the mean heat of the year exceeds 75° of Fahrenheit, the Banana will succeed and is valuable. Its produce is enormous. The whole labor of cultivation which is required for a plantation of Bananas or Plantains is to cut the stems laden with ripe fruit, and to give the plants or suckers a slight nourishment once or twice a year, by digging round the roots. A spot of a little more than 1,000 square feet will contain from thirty to forty plants, and such a plantation would probably produce more than 4,000 pounds of nutritive substance. Although the Banana is so sugary, yet weight for weight, its nutritive matter cannot at all be compared to that of wheat, or even of potatoes. At the same time, a much greater number of individuals may be supported upon the produce of a piece of ground planted with Bananas, compared with a piece of the same size growing wheat.

The ripe fruit of the Banana is preserved, like figs, by being dried in the sun. Some of our zealous horticulturists on our southern coast, comprising San Diego, Los Angeles, Santa Barbara and San Bernardino, are now turning their attention to the culture of tropical fruit. According to late information, the first Pine-apple, grown in the open air, has ripened at Los Angeles; a bunch of Bananas is now ripening finely at Anaheim, and in our city here a Guava tree bore fruit last year. Mangoes and Cocoa-nuts, and other exotic productions, are at this time doing well in many places in the south of this State.

The Tamarind (*Tamarindus Indicus*).

The Tamarind is a native of both the Indies, and of Arabia and Egypt. It forms a handsome, large-sized, spreading tree. The pods which it produces are, when ripe, of a brown color; those from the East Indies are longer than those grown in the West Indies. The seeds are lodged in a dark pulpy matter, which is the part that is edible. In the West Indies the pods are gathered in June, July and August, when fully ripe; and the fruit being freed from the shelly fragments, is placed in layers in a cask, and boiling syrup poured

over it till the cask is filled; thus the syrup pervades every part quite down to the bottom; when cool, the cask is headed or closed in, and is now fit for sale. Tamarinds are without any perfume, but they have a sharp, penetrating, lively and agreeable acid taste, softened by a delicious sweetish one, the two together forming a piquant nicety. It is the nicest article to swallow in the drug stores! The acid is chiefly the citric. The pulp is frequently employed as a sort of conserve in medicine; it is cooling and gently laxative, and is peculiarly grateful in fevers and inflammatory diseases.

The Tamarind tree is both useful and highly ornamental in those countries where it grows, and where its cool shade is nearly as much prized as its fruit.

About forty tons of Tamarinds are annually imported in Great Britain.

They are also used for the same purposes in this country as in Britain.

San Francisco, Nov. 11, 1871.

The Fruit Growing Interest.

EDITORS PRESS:—Some persons assume and argue that the abounding fruits of California can have no profitable market demand and supply beyond the limits of our own State. The data of their assumption is First. That the high railroad freights as now, will not admit distant transportation. Second. Though low freights might justify, yet all but dried fruit is liable to injury by rail carriage. Third. That the Atlantic and intermediate points have such variety and facility of cheap self-supply as to admit no demand to be profitably supplied by us.

I am not posted as to the data that would show the cheapest limit of rail car freight to the carrier, or what the railroad might do in this respect; but the inference would seem just that if Asiatic goods and Eastern pork—live hogs, etc.,—will admit of transcontinental remittance from and to us by rail, then moderate freights and pay of disposing agencies, would carry, especially our dried fruits, far beyond our own limits, and at paying profits to the fruit growers.

High freights may be an insuperable difficulty. If no corporation may be said to have a soul, money-making corporations may be regarded as the farthest removed from such soul possibility, and it is feared, responsibility. May we not suppose that the high price and profit of passenger fare would justify freights so low as to encourage other State interests besides traveling facilities? This looks plausible in the light of the Irishman's request to have his passage at the price and in the place of freight. Thus the price of human passenger freight, which loads and unloads itself, for men, women and children, across the continent, will probably average one dollar per pound, or \$2,000 per ton. Abating this three-fourths for extra space, etc., yet high carrier profits would still remain allowing large margin for concession, within profit limits to the interests of agriculture, the prosperity of which is regarded as not only the basis of mercantile wealth and mechanical employment, but also of traveling inducement and its paying means. California is regarded as the fruit growers' paradise; yet unless this very prominent State specialty, can with its gold, find outside and distant demand to be profitably supplied by us, then our own limits with its great capacity and great excess of self-supply will soon glut our markets as the strawberry did last year, or 1871. For but a small proportion of the orchards of the State have come to their maximum of productiveness. There would seem to be a fitness of adaptation of certain items of, to us, unending production to the supply of Atlantic and intermediate desiderata. I allude to our facile production of the pear, plum, grape, fig, etc., which but partially succeed there at all, and from late frosts and other causes, utterly fail every other year or oftener.

But under the possibility of such a relief to our over-production, who, what class of agencies shall be the incipient inaugurator of this relief to our inert fullness? It is not the function of the producer. Self-interest in its adaptation of function must move in the matter. And yet self-interest, so prone to over-reach in calculation and demand, must in all—the merchant, trader, mechanic, as well as the producer—the farmer, forego the hope of sudden

wealth, a quick "pile," once so possible here. A just ground of complaint of producers and consumers is the greatly enhanced cost of intermediate agencies—the cost of handling to the consumer in some things being greater than the first cost to the producer. These views are commended to the consideration of the productive and disposing agencies intrusted therein, hoping that just and laudable impulse will produce utilitarian results.

C. M.

BOTANICAL.

Significance of Botanical Terms.

[Written for the Press.]

Is there room in your valuable columns for a little botanical talk from a rural reader? I shall be glad if you decide there is; and, well knowing that it is not what to find to fill up, but rather what to exclude from a journal that gives its editor the greatest concern, I will try to be brief, and "boil it down."

Why is Botany so little known, and its study so little pursued? Since it treats of the most useful and beautiful objects in Nature, and is the most entertaining, complete, and withal the easiest acquired study in the whole cyclopedia of Natural History, the wonder is that more of the boys, and all of the girls, do not pursue it.

Let me discuss, in this paper, one of the facts that deter some from studying Botany.

The nomenclature is [hard to the ordinary English reader, and often discourages him. Now, precision is attractive, and necessary in descriptive writing, and nothing is more apt and distinctive than the terms used in structural Botany. And the flora, or the names of the genera and species—why, it is a very classical compendium.

There is scarce a name but has its history—some peculiarity of the plant itself, real or fancied, suggesting it, or an honor conferred upon a patron of the subject. Thus, *Aquilegia*, from *aquila*, the eagle, and *legia*, talons or claws—beautifully suggested by the incurved spurs of the Columbine, which seem to clasp the stem. How aptly *Impatiens* (or *Nolitangere*, touch me not) is named from the pod which bursts upon the slightest touch! How reverently the Catholic mind applies *Espirita Santo* to that beautiful plant which bears a complete resemblance to a dove in wax, nestled within its corolla! What dignity is added to the humble twin-leaf of the mountains by naming it *Jeffersonia*, in honor of the great statesman's distinguished patronage of the science of Natural History!

Again, what high honor was conferred upon "good Dr. Darlington," the banker and Botanist of Westchester, Penn., by naming the most curious and interesting plant on the Pacific Coast, *Darlingtonia* (lately figured and described in your columns). No wonder the good old gentleman was nearly beside himself with anxiety until its character was determined, and his name inseparably connected with it. More than all the wealth in his coffers, he prized the distinction conferred by his friend, Dr. Torrey, in naming this humble fly-trap of the high mountain solitudes of the Pacific, the *Darlingtonia*.

A very little attention to the rules and signs for pronouncing Greek and Latin, added to the zest which precision of terms, aptness of application, honorary terms, etc., gives, ought to excite an interest and secure a more common study of Botany.

The entertainment afforded a lover of flowers, traveling in a strange country, is perpetual and unmeasured; while the joy of possible discoveries, is pure and well-nigh ecstatic.

Let your youthful readers, during the approaching long winter evenings, conquer the significant terms of Botany, so as to be on hand with the opening flowers of spring, to call them by name, and appreciate to the full their varied attractions.

J. G. LEMMON.

Sierra Valley, Nov. 16, 1871.

The Juniper Tree.

[Written for the Press.]

In some parts of California the wild juniper grows profusely, and to a size that relates it to the tree kingdom rather than the shrub. It is a pretty tree, and if given the benefit of careful cultivation, might become more prominent in the history of California evergreens.

The common juniper is a low shrub, spreading its branches to lengthy distances, having pointed leaves growing in sets of threes, and bearing purple berries, from which a very excellent quality of gin is manufactured. The oil of juniper is very valuable for use in both varnish and medicinal compounds. The wood is serviceable in cabinet manufacture, and for veneration purposes. The juniper is a hardy evergreen and coniferous.

The Utah Cedar, which is the common name for one variety of the California juniper, is found in the foothills, and the warm valleys of the eastern slope of the Sierras; its botanical name is the *juniperus occidentalis*, and it bears a close resemblance to the Eastern juniper, although growing much larger and the wood is much harder and capable of a finer finish, while its color is white.

It grows to a height of forty feet in some localities. In the vicinity of New Idria, situated in the coast mountains, about 70 miles southeast of San José, the juniper is found so hard and fine in texture that it has been suggested as valuable to engravers.

Studying the botanical features of the juniper there seems to be an error in classifying it among the cedars. It bears no relative features to the cedar, except the fact of its being a coniferous shrub.

There is a very ancient superstition attached to the juniper flower, which gives it interest to the floral student. The ancients consecrated the shrub to the Faïres. The smoke of its green roots was the incense which they offered in perfume to the infernal gods; and they burned its berries, during funerals, to bar malign influences.

In some parts of Europe, especially in Spain, the peasant still believes the perfume of the juniper berry purifies the air and drives evil spirits from his abode. It is made to signify protection, on account of the defensive qualities ascribed to it by superstition, and the shelter its drooping branches offered to small animals when pursued by hunters.

A pretty French legend, in speaking of the juniper, says its language should be, "come to me for help." This is probably analogous to the superstition above alluded to, and derived from the same idea of the protecting qualities of the shrub.

There are other varieties of the California juniper, the *occidentalis* being the most common, and as a shrub grows to perfection.

L. L.

PLANTS FOR MEDICINAL PURPOSES.—The origin of plants for medicinal purposes is as follows:—

Hops came to perfection in Germany as a wild plant.

Anise was brought from Egypt.

Coriander grows wild on the Mediterranean shores. Its language—"Hidden Merit."

Saffron came from Levant. Its language, "My best days are past."

Sunflower is a native of Peru.

Chicory grows wild in Germany, also in Idaho.

Millet is a native of India.

Dill is an Eastern plant.

THE WINE CROP.—A leading wine-maker in the State estimates that the crop of grapes this season will produce from six to seven million gallons of "must" or raw wine. The quality of the grapes was never better.

R. G. SNEATH of this city has distributed 1,000 ramie plants gratuitously among the farmers from all parts of the State.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE COUNTY.—The Marysville *Appeal* has seen some cotton raised by William Mawson, from stock planted on the 1st of July. Mr. Mawson resides in West Buttes and has interested himself in the culture of this plant, firmly believing that it can be raised to advantage here as well as in the Southern States. Thus far his experiments have been eminently satisfactory.

EL DORADO COUNTY. it is claimed, furnishes the finest winter apples in the State.

FRESNO COUNTY.—Twenty-six pounds of potatoes were dug from one hill at Dr. Ellis' ranch, near Centerville, Fresno county.

HUMBOLDT COUNTY sent over 10,000 sacks of potatoes to this city during the week ending November 9th.

INYO COUNTY.—Mr. Moore, of Lone Pine, has sent, to the office of the *Independent* a remarkable specimen of *Convolvulus Edulis*, or, in plain English, sweet potato, which that paper says eclipses anything in the "spud" line yet heard from. It was raised on King's river, and labeled "Specimen of Red Sanderson's Strawberries." It was of hard shell persuasion, about the size of a man's head, and weighed nine pounds. The quality was of the finest description, while in quantity it was sufficient to supply a good sized family with two or three meals.

LOS ANGELES.—The *Daily News* of the 10th says: Our attention was called the other day to some rare plants in the garden of Col. E. J. C. Kewen. Among them are some pine apple trees grown from the tops of some of that tropical fruit brought by the Panama steamer to San Diego, last Summer. Another is a coffee plant, raised from the berry, and which, although lately planted, is now several inches above the ground. The greatest rarity of all, perhaps, is that of a date palm, now in its second year, and which stands fully four feet high. All of these plants are doing well, and seem to take very kindly to both soil and climate. The Colonel has about a thousand walnut plants which he intends putting in the ground at once. These will be a valuable addition to his groves of fruit-bearing walnut and orange trees. Various other improvement are on the tapis which will add greatly to the natural beauty of his place.

THE FIRST ORANGES.—The first California Oranges of the season arrived on Monday from Los Angeles by the Orizaba. The consignment consisted of 1,000 unripe oranges. The crop is nearly one month earlier than last year, and is said to be abundant. We may expect some 3,000,000 lemons and oranges from Los Angeles county this year.

MENDOCINO COUNTY has already this season, shipped 1,500 cords of tan bark.

NAPA COUNTY is to be largely supplied with the "Balm of Gilead." The *Reporter* says the Board of Supervisors has authorized Judge S. C. Hastings to plant Balm of Gilead and poplar trees on the road leading easterly from Rutherford Station to Napa river, such trees not to exceed one year old, and to be planted sixteen feet apart and five in the road, and for their protection said Hastings may move the fences along the road eight feet in the road, he removing the same back to their former positions at the end of three years, without compensation.

On the farm of J. L. Edwards, St. Helena may be seen some fruit trees which have made a remarkable growth. Almond trees, which were transplanted last spring, being then one year old, have made a growth of from three to five feet in length of limbs, and a corresponding thickness in their trunks; cherry trees of the same age, transplanted at the same time, have made a similar growth of from four to seven feet. A mulberry tree, by actual measurement, has grown in height during the present season, more than nine feet, having laterals of corresponding growth.

Says the *Reporter* of the 18th: There is a beet exposed at the door of the provision and grocery store on the corner below our office, which we hardly know how to describe, for fear of not being believed. It is huge—it is monstrous, as to size. It was raised on the ranch of Mr. Mount, of this county, and is one of the many evidences of the productiveness of the soil of this valley.

QUAILS A NUISANCE.—The same paper says, it is stated by vine-growers that one of the most serious losses sustained by them arises from the predatory propensities of quails. They consume a considera-

ble portion of the crop, and yet during the six months in which the grapes are growing, are protected by law. A petition is in circulation praying for such a modification of the Statute as will authorize the owners of vineyards to kill quails upon their own premises at all seasons.

HOP YIELD.—But little attention has ever been paid by our citizens to the raising of hops, yet it is a crop that is quite remunerative. Mr. Clock, of St. Helena, has for several years been cultivating a few acres in hops. He was somewhat unfortunate at first, but his crop this year is unusually large, and will bountifully pay him for all his losses and disappointments. His hops this season are of a superior quality, and will command the highest market price. Soon after gathering his crop, he sold a portion of it at 50 cents per pound. He expects to get 75 cents for the residue. He deserves eminent success on account of the diligence with which he has labored to develop this additional resource of our county. Give us more of the same class.

SACRAMENTO COUNTY.—The *Sacramento Reporter* says: We are informed on good authority that there is an epidemic among hogs in this vicinity called the "hog cholera." One individual, residing near Sutter's Fort, had twenty-three of his hogs die by this disease, which is said to have been brought to this State from the eastern States. Another party, living in the vicinity of Brighton, also lost fifty of his hogs under similar circumstances. The individual residing near Brighton is said to have brought one of his hogs to the city to be slaughtered, which he thought would be effected by the disease, and by that means "saved his bacon." If the report is correct, it is a shameful proceeding. We hope that this disease is confined solely to the swine owned by these parties, and that its spread among others will not take place.

SAN DIEGO COUNTY.—We clip the following items from the *San Diego Union*: This section of the county—the Valle de Los Viejos—gave a fine yield last season, notwithstanding the drouth. Clendinnin raised 150 tons of wheat; Barton, 120 tons; and Swim, 75 tons, and 250 bushels of corn. These enterprising and hard-working farmers are preparing to do still better next season. Swim tells us that he has just bought 5 tons of wheat, to seed about 140 acres, and says that Clendinnin will put in 160, and Barton 100 or more acres. They expect to have first-rate crops this coming season, having done so well during the past two "dry" years.

MORE FARMING ENTERPRISE—EXTENSIVE FENCING.—We learn that Mr. Oaks, of Santa Clara, intends to engage in an extensive farming enterprise on the San Bernardino Rancho, in that county, it being his purpose to plant 1,800 acres in wheat this winter. As, under the existing state of things in the county, the farmer must expend a small fortune in fencing before he can hope to cultivate the soil, Mr. Oaks has purchased 70,000 feet of lumber to be used in enclosing his land, and will proceed to fence immediately. We expect a good account from San Bernardino next season.

A BIG BEET.—Wm. Griffin, who has a place at Old Town, San Diego county, near the river, sent us a big beet yesterday—a fifteen-pounder. This was not one of those old "dead beets" that we read of occasionally, but young and tender, and fit for the table. Graham should have sent a few of these to the Fair.

The Supervisors of Santa Clara county have purchased one hundred and ten acres of land for the County Farm.

SANTA CRUZ.—Pajaro Valley has become noted for its large-sized squashes. Yesterday there was on exhibition at the office of the Southern Pacific Railroad, a squash weighing two hundred and seventy-five pounds, and seven and one-half feet in circumference, grown in the valley. There were also potatoes brought from ranches in the valley a foot in length, weighing three and one-half and three and three-quarters of a pound each.

SOLANO.—The *Vallejo Chronicle* says a gentleman named H. W. Crabb, in Napa Valley, realized \$60 per acre from a vineyard of three-year-old vines this year. Mr. Fisher, of St. Helena, realized from two and a quarter acres, seven tons and one hundred pounds of grapes. The Siegrist Brothers, near Napa City, will make 50,000 gallons of wine from their vineyard this year; the yield has averaged six tons of grapes per acre. Mr. Jones, of Green Valley a few days since sold 1,000 gallons of port wine of his own manufacture for \$1.58 per gallon. This is a good price, but Green Valley port wine is much sought after.

SONOMA.—Jireh Luce, on the East side of Russian river, from Healdsburg, beyond Fitch Mountain, had eleven and a half acres of corn the past season, from which he gathered 931 bushels, or eighty-one bushels to the acre. Mr. Luce has also a fine vineyard, just coming into bearing, from which he has made some 2,600 gallons of wine this season. The wine from this vineyard is of a very superior quality, and as Mr. L. intends to make a specialty of this product, we expect ere long to hear that it is much sought after.

NEVADA.

A MOUNTAIN SHEEP.—The *Elko Independent* of the 18th says: Mr. Atkinson well known to the people of Elko, has been engaged in the sheep business during the past summer, about ten miles from Elko. In the month of June twenty-five head disappeared mysteriously from his flock, and after scouring the country for weeks came to the conclusion that, if not destroyed by wild animals, they had found their way into some butcher's stall, and, per consequence, lost to him for ever. Last week his surprise was great to learn that, in Lamoille Valley his sheep had been corralled there under the following circumstances: John Walker, a resident of the valley had noticed the appearance of a band of sheep on the hills several mornings near his farm, chaperoned by an animal that appeared larger than an ordinary buck, and he concluded to take his rifle and prospect the situation.

After making a circle of some distance he got close to them unobserved—about one hundred and fifty yards—and discovered that the animal was a buck mountain sheep, of immense size, and taking deliberate aim at him over backs of the ewes, brought him down at the first fire. The animal dressed eighty-five pounds; his horns were each nearly two feet long, and he stood nearly the height of his body above the other sheep. The ewes proved to be, as above stated, the property of Tommy Atkinson, and were lost last June. Seven bucks that went away with the band were run off by the wild buck, but were found a few days afterward in the foothills, and driven to Mr. Walker's farm.

MONTANA.

MONTANA SHEEP.—The *Deer Lodge Independent*, Nov. 18th, says: Messrs. Palmer & Barker brought in another large sheep on Thursday evening, the largest one yet caught. His exact weight is 250 lbs., though he has been several days without food, having fallen off at least 50 pounds. Just before noon on Friday he was brought up to the front of Miller's hardware establishment, where Mr. Garrett, the artist, took several negatives of him. The wool is over five inches in length.

A PRODUCTIVE FARM.—The same paper says: Mr. John Lennan, who has a farm at the mouth of Bear Gulch, on the Hellgate river, has raised the present season 58 bushels of wheat; 800 bushels of oats; 250 bushels of barley; 125,000 pounds of potatoes; 50,000 pounds of cabbage; 10,000 pounds of onions, and a large quantity of turnips, beets, etc. From one potato, of the Early Rose variety, he raised 30 pounds of potatoes. His would be considered a productive farm in any country, yet there is plenty of land just as good that is open to entry in this country.

OREGON.

THERE is much discussion about the proposition to establish some kind of a fair at East Portland. The Portland people feel the need of something in the nature of an annual exhibition at or near that city, and it is considered but reasonable that a city of so large relative influence, and the center of so much mineral wealth, should exert a commanding influence in all movements that tend to foster the industries and developing the resources of the State. The *Willamette Farmer* suggests the establishment there of an Industrial Fair, where the mechanical and manufacturing industries of the State, more especially, shall be annually represented, and to this end recommends the organization of an association and the erection of permanent buildings. If the exhibitions are held at such times as will not interfere with the local agricultural fairs, the whole State will unite in sustaining such an initiation.

GONE EAST.—Dr. A. M. Loryea of Unk Weed notoriety, has gone East, for the purpose of introducing the article.

YAMHILL.—The Commercial Mills at McMinnville have 100,000 bushels of wheat; the McMinnville Mills 70,000 bushels. This grain will be floured at the mills.

FRUIT DRYING.—Considerable attention is being drawn to the subject of fruit drying in Oregon.

The Grape Growers Again in Council.

The Grape Growers of Sonoma, Napa, and Solano counties, met again in council, on the 11th instant, pursuant to adjournment. The following gentlemen were present:—

From Sonoma—O. W. Craig, J. Dressel, Leonard Goss, J. R. Snyder, H. Winkle.

From Napa—H. L. Amstutz, G. Bachus, E. D. Keyes, H. A. Pellett, J. York, Chas. Krug, J. A. Lockwood, W. W. Lyman, J. H. McCord, H. Gottschalk, Geo. Fagg.

From Solano—H. T. Barker, A. Bauferton, F. Miester, W. Miester.

The President of the Association, Major Jacob R. Snyder, officiated as chairman. After some preliminary business the Association adopted a memorial to the Legislature, praying for a modification of the fence law so as to protect the vineyards from trespassing cattle; determined to petition the Legislature to exempt wine from direct taxation after having paid once, and passed a resolution to invite the grape growers and manufacturers of wine and brandy of the State to meet in San Francisco on the 10th of January, for the purpose of considering their common interest.

The chairman of the committee on the taxation of wines reported orally a proposition to favor the taxing of wine but once; that is, at maturity. The subject elicited considerable discussion, but finally a motion prevailed, to memorialize the Legislature to tax only the sales of wine.

As the exemption of wine from repeated annual taxes can only be secured by a Constitutional amendment, it is feared the proposition will not find much favor in the Legislature.

The President called the attention of the Association to a model of a machine designed to cheapen the making of wine casks. Its *modus operandi* was explained by the inventor, Mr. Fulda, of this city, when the subject was referred to a committee to examine and report upon.

The Association finally adjourned, to meet December 16th, in Napa City, when it is hoped there will be a more general attendance of the persons interested. All engaged in the cultivation of grapes are invited to be present on that occasion.

Mortality Among the Sheep.

We hear of a great mortality among sheep which have been pastured during the summer in and beyond the Sierras, but which have recently been driven to the plains and valleys below. In a band of sheep which had recently arrived in the vicinity of Salt Spring Valley, Calaveras county, from the mountains beyond, we were told, a week or two since, 100 were dying every day. They were said to show symptoms of poison; but no idea could be formed as to where it could have been obtained.

About the same time a report reached us from the neighborhood of Chico, of great mortality among the sheep which had arrived there from the mountains. In that case *post mortem* examinations showed that the deaths ensued from disease of the lungs, caused no doubt, by sudden change of climate, in passing from warm to cold regions, and the overheating and subsequent chillings inseparable from such long journeys. Most likely the mortality at Salt Spring Valley had the same origin; but no examinations were made there so far as we have been informed.

The Grass Valley *Union* thinks the effects will be that sheep in such large numbers will not be pastured in the higher mountains hereafter, leaving all the more grass for kine and equine.

The same paper says of valley-raised horses and cattle, that when pastured in the mountains, they fall off in flesh. They do this, although they may be up to their eyes in clover and nutritive grasses. The fact of the falling off is attributed to sudden change of climate. A horse or cow cannot be taken from the warm plains to a frosty atmosphere without deleterious effect. As cattle become accustomed, year after year, to the change, they improve in the rich mountain pastures; cattle kept in the mountains all the time, winter and summer, are the healthiest in the world, and are the most profitable in the world, whether for beef or for butter and cheese. Those who graze their quadrupeds in the mountains will have to study the business more attentively to make it profitable, and most especially will more careful herdsman have to be employed to attend to stock in the mountain pastures.

HOME AND FARM.

APPLICATION OF SCIENCE TO FARMING.

We give below a portion of an address recently given before the Santa Cruz Farmers' Club, by Dr. C. L. Anderson. It will well repay perusal. We shall give further extracts from it next week. After some few introductory remarks the Doctor said:—

I propose, however, to say a word about the application of Science to Farming. When I use the word Science I do not want you to put your fingers in your ears and close your eyes for a short nap. That word, as I shall use it on this occasion, simply means knowledge—the practical application of knowledge to your farms. Every farmer who knows anything about his occupation, and applies what he knows, is a scientific farmer although he may not be able to read, or may not wish to read a book on that subject. His knowledge, however, much or great, must be obtained in one of two ways. It either comes from his own experience, or from the experience of others. The latter is extensive and world-wide; the other is confined, and limited to a single farm and a short lifetime. The greater part of knowledge, perhaps not always the better part, is preserved in books. A collection of facts related to each other, arranged in something of a system, constitutes a science. Let us see then

What Constitutes the Science of Agriculture.

It is a collection of all that is known about farming, systematically arranged. It is a combination of all published knowledge on that subject; it is what Virgil knew and made known; it is what we know and have made known in this Club; and more than this, it even includes all that Greely knows about farming.

I sometimes think if the amount of our knowledge was less, and the quality better, the scientific application would yield better crops of wheat, and our stock would improve in quality. We would allow nothing to deteriorate. Agricultural science certainly needs pruning, thinning out and destruction of the evil weeds. Of this, however, we shall have but little to do or say. If we properly apply what knowledge we can obtain, to our own farms, eradicating our own weeds, improving our own products, selecting a good stock of special knowledge applicable to our own particular cases, we shall have plenty to do.

I have lately been somewhat surprised at the little that is known on certain subjects.

The Diseases of Cattle,

for instance, is a wilderness of facts with but little system or classification. In looking through the agricultural works of the past twenty years, the periodicals and books that should be the receptacles of knowledge, are almost barren of useful information on the diseases and remedies of cattle. Setting the amount of money invested in cattle in the United States at one thousand millions of dollars, which is probably under the reality, and estimating the loss from the many diseases that might be avoided or cured by a little knowledge of the causes and remedies, at 5 per cent. each year and we have the sum of fifty millions.

Thus we see that whilst the acquirement of knowledge may be expensive even in the costly school of experience, ignorance is much more expensive.

One of our neighbors has lost \$500 worth of cows because he did not know a certain fact. Our neighbor was not to blame for being ignorant of this fact, for it is not stated in any of the late works on cattle diseases, that I have seen. There is a great deal said about "sore mouth," "sore foot," "hollow horn," "murrain" and other quite as indefinite diseases on which the light of science has not yet shone. And here comes in the value of Farmers' Clubs and Agricultural Societies. Each one brings his stock of knowledge on the various branches of Agriculture and there is an exchange of ideas with a comparison and arrangement of facts in which each member can hardly avoid being the gainer.

The Exchange of Ideas

on such occasions is doubly more valuable than an exchange of horses or cattle. When we trade horses with a neighbor, there is a chance for one of us to be cheated, and at best we have parted with something that we once owned, and it has

gone away from us. No so with the exchange of ideas; they are multiplied so that each one carries home with him the idea he brought, and also the one he received from his neighbor.

An association then of farmers, mechanics, or any other calling, meeting every week or so, might very properly be called a "Knowledge Exchange." Failures as well as successes should be reported, for the knowledge often obtained by a failure, will be quite as valuable as the knowledge obtained by a success. By failures, we learn eventually to be successful.

Again, the application of science to farming will make our work doubly interesting. We have all the time a series of experiments in progress. We are acquiring habits of close observation in farm work. Half the burden and drudgery, apparently so necessary to farm-life, is lifted from our minds.

Gather up Ideas.

He is but a poor farmer, indeed, who with his crop of corn and squashes, spare or abundant, does not gather in a rich harvest of ripe ideas. Whatever a person engages in, should be thoroughly and patiently studied, and there is almost always room for improvement.

The yellow pumpkin that grows in our fields should be to us something more than a yellow pumpkin. We might find it of interest and value to know something of its history—even its name, common as it is, may lead us back to mythical times when Pomona presided over gardens and delighted in the cultivation of the earth. Its botanical characteristics would afford a study at once interesting, and decidedly useful as to its family relations and individual peculiarities. Its use, both for food and medicine, are of no little importance. And who can tell what an influence it may have exerted in the progress of our civilization, even in the good old fashioned Thanksgiving dinners of our Puritan fathers; for Satan may quite as often be allayed by good savory feasting as by prayerful fasting.

Now the province of this application of science to farming is not so much to raise a greater aggregate amount of flour or pork as to enable us to raise it cheaper and with more ease. It is better and cheaper to raise fifty bushels of wheat to the acre, than fifteen or twenty. It is cheaper and easier to produce a hundred pounds of pork from six bushels of corn than the same amount from ten bushels. And so on through all the products of the farm,—the right application of knowledge instead of increasing our labor will materially lessen it.

I have spoken of experiments in progress on the farm. This should only be done in a small way where the knowledge sought is not accessible. But the general principles of farming, like the rules of arithmetic, are fixed and certain, and it would be folly to waste time in working out processes that we should know and that others have known hundreds of years before us. It should be our duty, and it would be decidedly to our interest to know where knowledge ends and where ignorance begins.

Tropical Forests.

There are forests in North America through which it is all but impossible to make way, so high are piled up, among the still growing trees, dead logs in every stage of decay. And here, in a forest equally ancient, every plant is growing out of the bare yellow loam. Most strange, until you remember that you are in one of nature's hottest and dampest laboratories. Nearly eighty inches of yearly rain and more than eighty degrees of perpetual heat make swift work with vegetable fibre, which, in a colder climate, would crumble into leaf mould, or perhaps change into peat. This zone of illimitable sun-force destroys as swiftly as it generates, and generates again as swiftly as it destroys. Here when the forest giant falls, with the cracking of the roots below, and the lianes aloft rattling like musketry through the woods, till the great trunk comes down upon the forest floor with a boom as of a heavy gun, the genial rain and genial heat act upon the fallen monarch until all the tangled ruin of lianes and parasites, and the boughs and leaves, melt swiftly and peacefully away into the water and carbonic acid and sunlight out of which they were created at first, to be absorbed instantly by the green leaves around, and transmuted into fresh forms of beauty, leave not a wreck behind.—*Harper's Monthly.*

Farmers, write for your paper.

Farming in Los Angeles.

The county of Los Angeles is divided by the San Fernando and San Gabriel Mountains into two portions, very different in their characteristics. The division to the northeast of the mountains is a barren desert; that to the south-west, contains some of the most fertile land in the State. This latter division slopes to the Pacific Ocean, on which it has a frontage of about a hundred miles. The breadth of this tract varies from ten to thirty miles; and under favorable circumstances, most of it may be cultivated with profit. In some localities, the soil is quite moist and capable of producing a crop without irrigation, in even such dry years as this and the last. The greater part of it, however, unless the season is more than usually wet, requires to be irrigated, to insure any thing like an abundant harvest.

At present, there are about 25,000 acres irrigated; but if all the rivers and creeks that flow from the mountains were utilized, perhaps ten times that area could be irrigated. All this land, with scarcely the exception of a single fertile acre, was given away in Spanish grants. The ownership of many of these, like Spanish grants all over the State, was in a condition of uncertainty until quite recently, a circumstance which debarred men of small capital from settling in this county.

During the last few years, many of those claiming Spanish grants have had their titles confirmed by the United States Government; and now good agricultural land, to which a perfect title is guaranteed, can be purchased at prices varying from \$10 to \$100 per acre. The latter price is very rare, and is asked only for land of almost unparalleled productiveness.

A crop of hay and one of corn are commonly taken, each year, from such land as this. The hay is cut in May; then the land is irrigated, if necessary, and planted with corn. Sometimes they obtain a crop of barley and one of hay from the same sowing. Barley is sown, and some time after it has headed out, it is cut for hay. The water is then turned on, when the roots sprout afresh and produce an excellent crop of barley. The usual yield of Indian corn on such land is from 80 to 120 bushels, and, in some instances, 140 bushels to the acre. Wheat, oats, barley, maize, Irish and sweet potatoes, grow well; but fruit raising is more profitable than any of these, and to this business a great deal of the land in the county will eventually be devoted.

Among the disadvantages under which the county labors, may be mentioned the drouths to which it is subject, the uncertainty which still prevails with regard to the ownership of a good deal of the land, and the scarcity of wood for fire, building, and fencing. Poor settlers have no business to go there; for, though Los Angeles offers to men with a fair capital advantages not surpassed in any other part of the State, to the small farmer, to whom a plentiful supply of rain is a necessity, it is more likely to bring beggary. But if, in addition to money enough to buy his land, he has also money enough to buy the right to water and build irrigating ditches, he may count with certainty on ultimate success.

Lumber for building purposes costs from \$30 to \$50 per thousand, and is all brought from northern ports. Fire-wood in Los Angeles City costs \$10 per cord. For fencing purposes, lumber is too dear to be used to a great extent. Willow-hedges are, therefore, used in many places. This kind of fence, however, is available only when the young plants can be irrigated, after being set out. It is in the end, perhaps, as cheap as any other kind of fence, and besides materially increases the beauty of the scenery. This is a consideration of no small weight, where, as in Los Angeles, the landscape is deficient in verdure. But "live fences" require time to grow; therefore, a man must wait some time before they are able to afford the necessary protection to his crops. If to poor to wait, or to buy lumber for fencing, he must constantly be on the watch; and, notwithstanding all his vigilance, his crops are likely to be destroyed, at any moment, by the cattle and horses that roam over the country.

A law compelling the stock-owners to take care of their stock, so as to render it unnecessary for the farmer to fence in his land, is advocated by many residents of Los Angeles, and if passed by the next Legislature, as in all probability it will be, farmers will be able to settle there with a much smaller capital than is required at present. However, these drawbacks are more than counterbalanced by the great fertility of the soil; and since the resources of the county have become more extensively known, its population and wealth have steadily increased.—*Overland Monthly.*

Railroad Items.

A project is on foot for the construction of a narrow-gauge railroad through Napa Valley, the termini to be Calistoga and a point on Napa Creek, near Suscol. The cost of the road is estimated at \$200,000.

The construction of a narrow-gauge railroad from Petaluma to Saucelito is being agitated in Sonoma county.

The through passenger trains of the Pacific railroad now run by the Vallejo route. It is said that a double track will be laid from Vallejo to Sacramento within a year.

Turton & Knox have contracted for the grading of the railroad between Healdsburg and Cloverdale, seventeen and a half miles long; and also from Petaluma to Bloomfield. Sonoma county gives a subsidy of \$5,000 per mile, and both must be completed by the 19th of next March.

The directors of the Antioch and Visalia railroad have given instructions to complete the purchase of the right of way, and award contracts for grading and bridging. Sealed proposals for the construction of a wharf at Antioch and trestle work, extending from the wharf to Smith's Point, are advertised.

The agents of the Central Pacific Company have negotiated for and secured the right-of way from many land proprietors for a line of road between Oakland and Santa's.

A heavy force of workmen are employed in building the railroad between Gilroy and Salinas City.

The people of Santa Clara county voted on Wednesday of last week on a proposal to accept from the Central Pacific Railroad Company \$100,000 for its railroad stock.

The supervisors of Santa Cruz have passed an order, to submit to popular vote the question of giving a subsidy of \$100,000, for the construction of a railroad from Watsonville to the county seat.

The San Joaquin Valley Railroad is advancing southward, at the rate of half a mile daily, and will soon reach Bear Creek.

Engineers are engaged in surveying a railroad route, from Summit, Solano county, via Oak Grove, to a point on the projected Sonoma railroad.

The California and Oregon Railroad will reach Red Bluff, this week.

The Walla Walla and Columbia River Railroad Company propose to build a narrow-gauge railroad, from Walla Walla to Wallula, provided \$75,000 is raised.

T. G. Eastwick and party, who have been surveying a passage through the Bitter Root range, for the Northern Pacific Railroad, have returned to Lewiston, being prevented from further explorations by snow. The Northern Pacific expect to have nearly one-third the distance across the continent completed by the close of next year.

Trains on the California and Oregon Railroad will be running through, from Eugene City to Oakland, Oregon, by the middle of December.

A project to connect Santa Cruz with the Southern Pacific Railroad is being agitated.

The Utah Northern Railroad, narrow gauge, is being pushed ahead. This road will take the Idaho and Montana trade from Corinne.

A surveying party are locating the line of the O. & C. Railroad, on the east side of Wapato Lake, Oregon, and will cross the Yamhill river, between Lafayette and Dayton.

It is reported that the terminus of the Northern Pacific Railroad on Puget Sound, will be located within sixty days.

Ten per cent. has been paid in on \$130,000 of the \$150,000 subscribed for the recently organized San Diego and San Bernardino narrow-gauge railroad. Application has been made to the Board of Supervisors asking aid to the amount of \$100,000 in twenty-year bonds. The projected road will be 124 miles in length and will cost a million and a half fully equipped.

A large and elegant railroad depot is to be built at Vallejo. It will be semi-gothic in style, and will contain, besides the sitting room and baggage room, a ticket and telegraph office. The platform will be 30 feet wide.

During the past week a surveying party have been surveying a route proposed for a railroad from Saucelito, to connect with the California Pacific railroad, on the Summit in Jamison Cañon, about 48 miles from Sacramento.

The Colusa Sun discusses the feasibility of a narrow-gauge railroad from Colusa to Marysville. It says it is claimed that it can be built and stocked for about \$8,000 per mile, and the entire cost of the proposed road would only be \$200,000.

USEFUL INFORMATION.

A New Product of Milk.

Every nation has a national drink—some alcoholic preparation that will intoxicate. The natural beverage is varied according to the circumstances of the case. The Mexican pulque, East Indian arrack, American corn or rye whisky, French brandy, is each produced from the vegetable productions of its particular country. But the nomadic tribes of Tartary which have no agriculture, and whose wealth consists of flock and herds—who are exclusively livestock men, in fact—have for ages "made drunk come" through the agency of a vile preparation of mare's milk called *koumiss*.

And now a movement is on foot for introducing this stuff into use in the United States and England. Cow's milk is used instead of the equine product of Tartary, but the article, which by the by, is made in Germany, is substantially the same as Oriental *koumiss*. We are told that "The result of the treatment is a mixture of alcohol, carbonic acid, lactic acid, and finely divided casein and butter, with the residue of the sugar and salts of the milk, in taste resembling a mixture of champagne and cream, and supposed, as the Tartars are very athletic, to be conducive to health and a preventive of consumption."

But we can have no very sanguine wishes for this attempt to convert the bland lacteal fluid into a vile alcoholic compound. It is bad enough that a large amount of milk is derived from the slops of the distillery, without sending the product back to be converted into alcohol.—*Live Stock Journal*.

WHY GRANITE DECAYS.—Dr. Roberts, an eminent French chemist, earnestly recommends the use of salts of copper as the best preservative against the injurious effects of a moist climate upon stone buildings; and endeavors to prove that the wasting away of sandstone and granite is due to various causes, one of the most important of which is the development of a minute lichen. This plant, says Dr. Roberts, is so destructive that the beautiful marble sculptures in the park at Versailles would be completely destroyed by it in the space of fifty years unless precautions were taken to arrest its ravages. He states that the amount of wearing away of rocks of all kinds, granite not excepted, is much greater than the public are generally aware of, especially when subjected to the influence of a moist atmosphere.

WORK DURING SLEEP.—Those cases in which the brain is hard at work during sleep, instead of being totally oblivious of everything, may be called dreaming, or somnambulism, according to the manner in which the activity displays itself. Many of them are full of interest. Some men have done really hard mental work while asleep. Condorcet finished a train of mental calculations in his sleep, which had puzzled him during the day. In 1756, a collegian noticed the peculiarities of a fellow student, who was rather stupid than otherwise during his waking hours, but who got through some excellent work in geometry and algebra during sleep. Coleridge composed "Kubla Kahn" while asleep.

A CHEAP GALVANIC BATTERY.—A cheap galvanic battery has been described by Dr. Golding Bird, which, it is stated, can decompose water, and ignite charcoal. The mode of construction is to break the stems of six tobacco pipes, close the bowls, and close the apertures at the bottom of each bowl with sealing wax, get six small toy tumblers, about half an inch in height; put in each a cylinder of amalgamated zinc, and place in each pipe bowl, a thin slip of platinum foil, half an inch wide, and connect it with the zinc of the next cell with platinum wire; fill the pipe bowls with nitric acid, and the battery is complete. In case the platinum cannot be obtained, copper may be substituted. This battery is in imitation of the famous battery made by Faraday, out of a common tumbler.

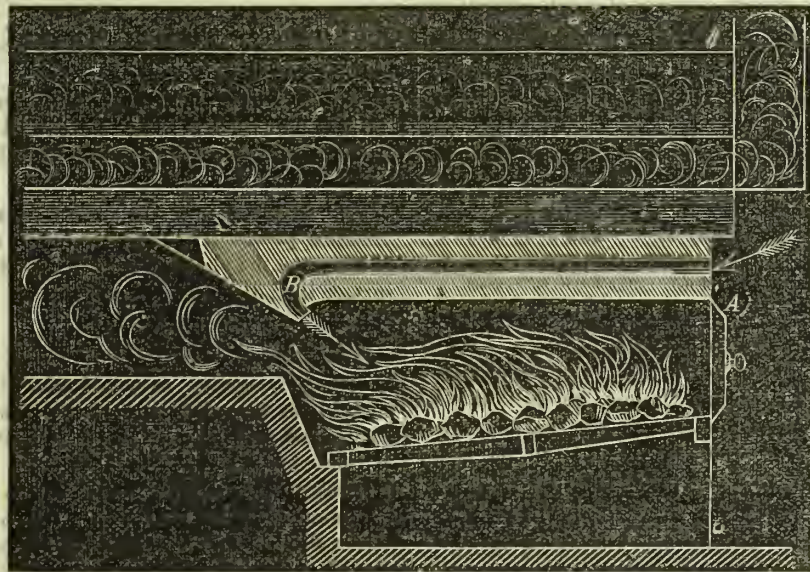
HOW TO SEE UNDER WATER.—A writer in the *Scientific American* tells us how to see under water: "The Indians of North America do this by cutting a hole through the ice, and then covering or hanging a blanket in such a manner as to darken or exclude the direct rays of the sun, when they are enabled to see into the water and discover fish at any reasonable depth. Let any one who is anxious to prove this, place himself under a blanket, and he will be astonished when he beholds with what

a brilliancy everything in the fluid world is lighted up. I once had occasion to examine the bottom of a mill pond, for which I constructed a float of inch plank, sufficient to buoy me up; through the center of this float I cut a hole, and placed a blanket over it, when I was enabled to plainly discover objects on the bottom, and several lost tools were discovered and picked up. I am satisfied, that, where water is sufficiently clear, this latter plan could be successfully used for searching for lost bodies and articles."

Consuming Smoke.

A great waste of fuel is inseparable from the manner in which most boiler furnaces are constructed. It is now over thirty years since attention was first called to this fact and devices applied to remedy the defect. If we are not mistaken, John Y. Williams, of Manchester, England, was the first person who gave a practical demonstration of the fact, that nearly all the smoke which consists of free carbon and escaping, ignitable gases, that passes off from furnaces, whether burning wood or coal, can be consumed—thus utilizing an enormous waste and converting a nuisance into a positive benefit.

Mr. Williams introduced air to the escaping gas or smoke by numerous small apertures in the fire bridge. The defect of this arrangement, however, was that



the air was not brought in contact with the escaping gases at the point when they are richest in unconsumed carbon, etc. Perhaps among the many improvements, none have been made more simple or more effective than the one shown in the plan roughly sketched below. Referring to the figure, A is an arch of fire tile between the fire and the boiler; B, a series of pipes forming air inlets, introducing numerous jets of heated air which strike the fire at its hottest part and where richest in free carbon.

In Manchester and other manufacturing towns of England—where the combustion of smoke is made compulsory by law—the smoke nuisance has been practically abolished, so far as the manufacturing establishments are concerned; greatly to the economy of the manufacturers themselves as well as to the general health and appearance of the city.

FISH AS FOOD.—A well known writer, on chemistry as applied to food, has made the statement, based on actual scientific investigation, that there is as much substance in a pound of salmon as there is in a pound of mutton. This fact alone shows us the advantage to be derived from proper care and protection extended to our waters in stocking them with fish, and by proper laws, giving such care to the promotion of our pastures as to add to our resources, and thus reduce the present enormous high cost of beef, mutton, pork and veal, articles which every housekeeper knows are the real cause of the fearful charges of living.

A FRENCH chemist asserts that if tea be ground like coffee before hot water is poured upon it it will yield nearly double the amount of its exhilarating qualities.

GOOD HEALTH.

Picking the Ears.

Dr. Hall says "picking the ears" is a most mischievous practice; in attempting to do this with hard substances, an unlucky motion has many a time pierced the drum; nothing sharper or harder than the end of the little finger, with the nail pared, ought ever to be introduced into the ear, unless by a physician.

Persons are often seen endeavoring to remove the "wax" of the ear with the head of a pin; this ought never to be done; first, because it not only endangers the rupture of the ear by being pushed too far in, but if not so far, it may grate against the drum, excite inflammation and an ulcer, which will finally eat all the parts away; especially if of a scrofulous constitution; second, hard substances have slipped in, and caused the necessity of painful operations to fish or cut out; third the wax is manufactured by nature to guard the entrance from dust, insects and unmodified cold air, and when it has subserved its purpose it becomes dry, scaly, light, and in this condition is easily pushed outside by new formations of wax within.

Occasionally wax may harden, and may interfere with the hearing; but when this is the case, it is the part of wisdom to consult a physician and let him decide what is the remedy; if one cannot be had, the only safe plan is to let fall into the ear 3 or 4 drops of tepid water, night and morning;

Fat People.

Not long ago a gentleman of threescore, who had scarcely ever been sick in his life, thought he was too fleshy and began to Bantamize. He succeeded famously, and boasted to his friends that he had got rid of ten pounds in a few weeks. A little later he was attacked with a painful and dangerous malady, from which he has been suffering more than a year.

If a man can sleep soundly, he has a good appetite, with no unpleasant reminders after meals, the bodily habits being regular every day, he had better leave himself alone, whether he is big as a hoghead or as thin and dry as a fence rail.

Several causes of Bright's diseases have been reported by medical men of reputation as a direct result of practicing Bantam's plan for getting lean. The very best and safest way to get rid of fat is to work it off. This may be aided by eating food which contains a large amount of nitrogen and a small amount of carbon.

Nitrogen food is that which gives strength, power to work, as lean meats; carbonaceous foods are those which make fat, such as cheese, potatoes, rice, corn, peas, beans, tapioca, arrowroot, cornstarch, milk, sugar, syrup, and all oily and fat food. Raw fruits and berries largely eaten are great aids to reducing weight.

But, after all, the great reliance should be on exercise and work in the open air. Barclay, the great English pedestrian, who performed greater feats than Weston, lost ten pounds in two or three days' walking, and was never the worse for it.—*Hall's Journal of Health*.

INTERMARRIAGE OF BLOOD RELATIONS.

Prof. Richard Owen, L.L.D., A.M., of the Indiana State University, stated an important fact which cannot be too widely disseminated, namely: that in the intermarriage of blood relations is a physiological error," and he might almost say, with our knowledge of such matters, a crime. Speaking from a close observation of this subject for many years of all the families of his acquaintance where close intermarriages had been permitted, the children were either deaf mutes or were afflicted by some deficiency. He knew a young man whose father was a physician, and who should have known better than to marry a double-cousin, but the consequence was, as the last portion of the osseous system developed, the young man from the intermarriage of those in whom the same material was deficient, was prevented from having a single tooth at any period. His sister had but two or three small stubs of teeth, and their brother was altogether deficient in his mental faculty. He insisted that it was a great crime for parents to allow their children to grow up with the idea that they might ever intermarry with blood relations. It should be a thing never to be thought of, the intermarriage with those connected by ties of consanguinity.

Mr. Ferguson knew of a case in Ohio, where some thirty families had married and intermarried until they could no longer tell their relationship. Most of the progeny were deaf mutes, and the remainder a little above idiotic.

LAZINESS AND LONG LIFE.—The lazy groan most over their "arduous duties," while earnest workers talk little about the exhausting labors of their profession. Of all creatures, the sloth would seem to be the most wearied and worn. "He that is slothful in his work is brother to him that is a great waster"—first of all of health. Said Dr. Humphrey, for twenty-two years the President of Amherst College, and who reached the age of eighty-two: "I have yet to see the man who died from the effects of study." Kant, an indefatigable student in the most profound themes of metaphysics, and leader of a new school in philosophy, lived beyond the limits of three score and ten. As the result of his experience and wide observation, he was wont to say: "Intellectual pursuits tend to prolong life." He placed great reliance on the power of cheerfulness and will in resisting disease. "Be of good cheer," is as wise a prescription for the health of the body as of the soul.

BREATHING FOUL AIR.—When breathing air that is dirty, ill-smelling, or otherwise impure, the breath should be drawn in slowly through the nostrils—never through the mouth. In this way the dust and other impurities are mostly lodged in the passages of the nostrils from which it is readily expelled, and kept from the lungs. People ought always to breathe through the nostrils. A person's life is, in almost all cases, thereby greatly lengthened.

TO STOP THE BLEEDING FROM LEECHES.—Make a ball of cotton about the size of a pea; put this pellet of cotton or lint upon the wound; press it down firmly; keep up the pressure for a quarter of an hour. Remove the finger cautiously taking care to let the pellet remain.



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SAN FRANCISCO:

Saturday, Nov. 25, 1871.

Our Weekly Crop.

We presume there are but few among the elder portion of our readers, who do not sometimes revert with pleasure to those good old times, when, after the harvest was over, busy hands and cheerful faces, of both sexes, gathered around the huge corn stacks to separate the golden grain from its husky covering; and then, when the red ear of corn was found, what a commotion! Well, those were glorious times; but, like many others of the good old customs, corn-huskings are also fast passing away, before the "march of improvement;" and here, right at the very entrance of our rural homestead, has been set up one of those labor-saving machines, which, with a mule to turn the crank, will do more work in an hour than a dozen of your merry old-fashioned huskers could do in two hours, even if not a single red ear should turn up to divert their attention from actual work.

The very thought that those old-time merry-makings are now a thing of the past takes away the accustomed zest with which we usually enter the library, and our equanimity is hardly established by reading the really interesting Notes of Travel in Santa Clara County, or the choice Horticultural and Botanical treat which has been prepared, with so much care, for our especial delectation. We are finally constrained, in order to become reconciled to modern improvements, to take a tour over the State and witness what such improvements are doing in every department of agricultural industry. We have noted some of the results in our Agricultural Summary, and we see others in the Application of Science to Farming generally, and to Farming in Los Angeles in particular. In our travels and for transporting produce, etc., we find Railroads a most Useful convenience; and among the improvements introduced by science, a very simple device for the Consumption of Smoke, has been pictured by our artist, which practice proves not only economical, but also essential to Good Health.

The past dry season and the dubious prospects for the coming one, renders Underground Irrigation and all other modes of the artificial application of water to growing crops a matter of paramount importance; and while we are considering this matter our artist again steps in with a fine practical illustration of the manner in which Dalton's Improved Harness is used, a matter in which all our friends are more or less interested, as well as in the accompanying hints on the best mode of Keeping Fruit.

After tarrying a moment in the Home Circle, listening to the rehearsal of a poem from the lamented Pollock, learning a good lesson on the benefits of returning Good for Evil, enjoying a chat with the Young Folks and taking a brief look at the Domestic Industry of the Household, we pass over the Bay and take a pleasant stroll Among the Oakland Gardens, where we find both time and occasion for a further consideration of The Water Question, and take the opportunity of throwing out a few hints as to Who Should Advise. Where they should advise we need not say.

Water Pressure.

Eds. Press:—Suppose we have two pipes of equal length, placed together in a perpendicular position, one of which is of a regular size its whole length, the other graduated in size, being small at the lower end, and larger as it goes up, both pipes being of the same size at the lower ends, the graduated pipe to contain (for instance), four times the quantity that the other is capable of holding. Now, when both pipes are filled with water, is there any difference in the pressure of the water at the lower extremity (no water being allowed to escape from either pipe); by answering the above question you will greatly oblige, etc. T. R. HUTCHINSON.

Ukiah, Nov. 13th, 1871.

There will be no difference in the pressure of water in the pipes above described; but the graduated pipe will discharge a larger quantity, provided both are fed to their fullest capacity and under a uniform pressure; for the reason that there will be less friction to be overcome by the water flowing through the graduated, than by that flowing through the uniform pipe.

California Seeds Wanted East.

The following letter speaks for itself, and affords increased evidence of the interest that is being taken in California productions at the East:

HIAWATHA, KANSAS, NOV. 7TH, 1871—Eds. *Pacific Rural Press*:—Please send me a specimen number of your journal, as I wish to read about your big fruits, vegetables, etc. I am particularly anxious to get the address of a California seedsman, as I wish to order seed for my next year's garden from your coast, the growth of your own soil, to see whether the excellent qualities of California fruits and vegetables may not be, in part at least, transmissible in seed, even if planted in a different soil and climate. If no seedsman have enterprise to keep cards in your paper, I will take it as a special favor, if you will send me the address of any firm known to you.

C. W. JOHNSON.

THE RURAL PRESS IN OREGON.—Mr. J. W. Shortridge, writes from Cottage Grove, Lane county, Oregon, as follows:—"I would wish to state to you that the PRESS, in my estimation, comes up to the standard of a first-class agricultural paper, and I heartily endorse its teachings so far."

No Reason for Discouragement.

Although we have passed the middle of November and have as yet had less than an inch of rain in most sections of the State, yet there is no reason for being discouraged. In 1862 the first rain of the winter season fell on the 27th of December, and yet the season succeeding was one of the most prosperous California ever experienced. There is yet abundance of time for the crops to be perfected, even if the rain-fall should be delayed for another month; and all indications appear to agree in foreshadowing sufficient rain when it once fairly sets in.

The quantity of rain that has already fallen is enough to start the grass in most of our northern valleys; but not enough to either start the grain or facilitate plowing, when moisture is needed for that purpose, in our central and southern counties.

The mountain rivers are slowly rising, but rather from lack of evaporation than from the small rain-fall, which is only about 1½ inches up to this time even well up in the mountains, against over 4 inches last season.

THE SAN JOAQUIN IRRIGATION SCHEME.—The work on the dam across the San Joaquin river, near La Grange, which we noticed a week or two since, is rapidly advancing, and it is expected the water will be let into the canal during the month of December. We hear of new irrigation schemes every week, from almost every part of the State. It will pay our farmers to be prepared for irrigating every acre of land on which water can be brought at an expense not exceeding one perhaps or two dollars per acre, per year.

UNDERGROUND IRRIGATION.

The subject of irrigation has very naturally attracted a great deal of attention during the past year in consequence of the great scarcity of the natural supply of water.

Schemes for irrigating large tracts of country in many portions of the State have been projected and some are in a forward state of completion. Much good will, undoubtedly, result from the successful operation of these enterprises. But our object now is to call attention to a plan for underground irrigation, which we think most admirably adapted to irrigating vegetable and kitchen gardens and small orchards and nurseries, particularly on the dry prairie or grain districts of our State.

Every farmer, gardener or nursery man will at once see and comprehend the reasons, why water applied, say one foot below the surface, will do more good to growing plants of all kinds than if applied on the surface of the soil. These reasons may be stated briefly as follows:—

1st.—It induces the roots to work downward to meet it, thus giving them a deeper and better hold on the soil and enabling them to secure a greater amount of the plant sustaining elements.

2d.—Water thus applied softens up and loosens the whole ground and does not, like water applied to the surface, induce a crust to form on the surface.

3d.—Much less water will be needed if applied underground than if applied on the surface, because the evaporation will be less.

4th.—There can be no danger of sun, scalding plants thus irrigated, while this is the great drawback or danger attending surface irrigation in the summer.

Natural Examples.

For a striking illustration of natural underground irrigation, we would refer to the lands about the confluence of the Sacramento and San Joaquin rivers, especially to Sherman and Twitchell islands. At high tide the water in the rivers or sloughs surrounding these islands, is as high or higher than the surface of the soil even in the summer season, but at low tide it is from three to four feet below the surface. Thus the soil is kept constantly irrigated from below. To this fact are these lands indebted for their great productiveness and natural advantages. On these lands the seed time and harvest are co-existent and constant the year through. All varieties of vegetable seed may be planted here in the middle of summer and they will come forward and mature as rapidly and perfectly as those planted in the spring.

Thus is given a double value and a double productiveness to these lands. The water becomes a constant fertilizer to the land and stimulant to the growth of the plants. Now if it was in the power of man to place all the lands in this State in a position so that they could be thus perfectly and constantly irrigated by bringing the water up to the surface to be controlled at will, what a value would be thus added to these lands. The productions of the State under such a system of irrigation would be beyond estimate. If each farmer throughout the country could thus irrigate even one acre, he would increase the value of that one acre from eight to ten fold. However dry and parched the general lands of his farm might be, he could, of this one acre make a constant garden, and thus surround his house with a perpetual Eden, from which at all times of the year he could supply his table with all the luxuries of the temperate and semi-tropical zones.

It Can be Done!

That is, every farmer in the State can, if he will, and with very little expense, thus irrigate one acre, more or less, and we care

not where he may be located; only provided that he has land of medium fertility, he can have an excellent and constantly producing vegetable garden, and a good thrifty growing and good bearing orchard of all kinds of fruits. The dryest and most shallow-soiled red-prairie land can be made to produce as abundantly as the best and deepest river bottoms.

Artificial Example.

For the proof of what we say; we will give the following facts, which were first alluded to in our issue of Aug. 5th: N. Clark, of Sacramento, about half a mile east of Sutter's Fort site, has a piece of land familiarly known in that neighborhood as hard pan land. The soil is a stiff adobe, some of it a pretty sticky clay of a reddish cast, and not over ten inches deep. He has been trying to grow an orchard and garden on this land for a number of years, by surface irrigation, with very poor success. Indeed his efforts for a garden may be said to have been a failure. Last season he noticed a small strip of peas, which he had planted, were growing very thrifty, and matured a good crop, while all the rest of the peas planted at the same time, and cultivated and irrigated so far as he could see, in the same manner, produced nothing.

He determined to know the cause of this strange fact, and commenced an exploration with a shovel. He soon developed a gopher-hole about a foot underground, running parallel with and very nearly under the row of peas, that had proved so much more thrifty and prolific than the balance. Into this hole the water had penetrated and from thence had worked its way up to the roots of the peas, which had also penetrated deep into the soil to meet it. This suggested to Mr. Clark a new idea, *underground irrigation*, and he immediately determined to put this idea to a practical test. This season has afforded him an excellent opportunity to do so. Being a manufacturer of crockery and various kinds of earthen and tile pipe, he made up a lot of the latter with a two-inch bore, in pieces one foot each in length. His trees were in rows 16 feet apart. He dug a trench about a foot deep in the center between these rows. In these trenches he buried this pipe, laying the pieces end to end, leaving the ends the eighth of an inch apart. Over these little broken joints or openings he threw pieces of broken crockery, so as to permit water to run out and prevent the earth from working in. Across one end of the piece so laid with pipes he set pipes of the same kind and length upright so that each upright pipe connected with the end of one line of horizontal. He then dug an open trench so as to conduct the water into these uprights and his irrigating plan was complete.

Into this open trench he turned the water from a pump worked by a wind-mill and drawing water from a bored well. It worked well and in a few days his place was completely irrigated so as to show a dampened appearance on the surface. He planted peas, beans, tomatoes, and many other kinds of vegetables between his trees, all of which grew most luxuriantly and produced abundantly. His trees made a magnificent growth and produced a good crop of excellent fruit. In fact the whole experiment was a most perfect and satisfactory success.

We will next week give some more very important and interesting facts in connection with this experiment and show many advantages to be gained by it.

SACKING EVERGREENS.—We learn from Mr. Kelsey, of the Oakland Nursery, that people complain a great deal that the young evergreen trees are not doing well. Mr. Kelsey has planted many thousands, tying up the roots in sacks and setting them in the ground, sacks and all, merely cutting the ropes. The sacks will decay in 14 days, and the trees have never failed to grow.

San Bernardino Alfalfa.

San Bernardino Valley is over fifty miles long, and nearly thirty miles wide; walled on the north, south and east, by ranges of lofty mountains breaking against the sky in massive peaks and gigantic cones, and covered with heavy timber. This is one of the most beautiful valleys of Southern California. Winding down the mountains are hundreds of cool, sparkling streams, that course here and there through the valley, their fertile banks, green with the spreading sycamore, the graceful willow and other trees, which ornament the valley as only nature can ornament.

The alfalfa grass is cut here eight times each year—and one year nine times; it is perennial, and in quality challenges a superior in the State. Cattle are fattened in this valley in immense herds, and the beef sold in the adjacent markets is decidedly sweeter, tenderer, and better in every particular, than that produced in any other portion of the State. The ranchmen of this beautiful basin say it is the result or effect of the superior quality of the grass.

The hay from this section is in greater demand and value, than any other. Hundreds of acres of rich alfalfa grows unmolested year after year. Sleek, glossy cattle roam for miles knee-deep through this clover field, nibbling the choicest tops, and trampling down more than ever goes to market.

The valley is free from the gophers which are so troublesome to farmers in other localities, and so ruinous to the perfect growth of the alfalfa; hence it roots itself deep into the rich soil and flourishes in incredible quantities and richness of flavor, in patches that number hundreds of miles—broad acres beautifully spread out in the sunshine of the most fascinating climate on the coast.

Extension of Patent Refused.

Important to Farmers and Plow Manufacturers.

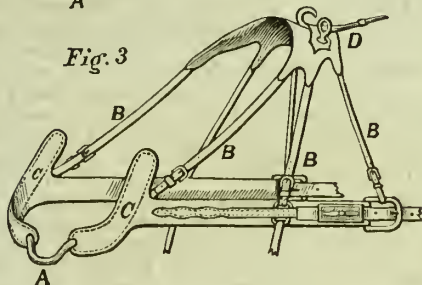
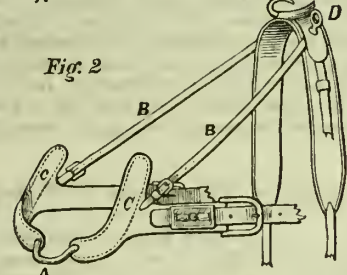
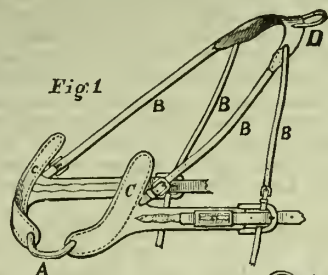
Gang plows are one of the institutions of the Pacific Coast, and more patents are taken out for them than in any other State. The reason of this is, that farms here are usually of large extent, comprising hundreds and sometimes thousands of acres, and gang plows can be worked to more advantage than on most of the farms in the Eastern States. They give satisfaction wherever used, and are being generally adopted. The *Scientific American* of a recent date says:

The application of George W. Hildreth, of Lockport, N. Y., for an extension of his patent for a gang plow, has been refused. This patent was reissued last December. The leading features of the invention are these: crank supports, for adjusting the height of the frame from the ground; supporting wheels, so adjusted as to run upon different planes, one to run in the furrow and the others upon the sod; the axle made adjustable laterally; in brief, the axle has a triple motion, upward, downward and lateral, and it also vibrates on the center bolt. This plow is well known on the Pacific coast, and has been manufactured by Baker & Hamilton, of San Francisco. It is claimed that it will plow from two to four acres a day more than a common plow. The applicant appears to have been unfortunate in reaping no profits from his invention. He says: "I am getting towards three score years and ten, and have had a hard, up-hill business for years; and this gang plow business has contributed largely to my misfortunes." The extension was strongly opposed, and remonstrants claim that applicant has not used due diligence in introducing his alleged invention into general use, and that in his reissue he claims more than is his invention. A suit for infringement of this patent has lately been brought against Treadwell & Co., the damages being fixed at \$50,000.

MAJ. ROBERT BECK, Secretary of the State Agricultural Society started for the East on Monday last, on official duty, and will be absent some six weeks. I. N. Hoag will act as Secretary during his absence.

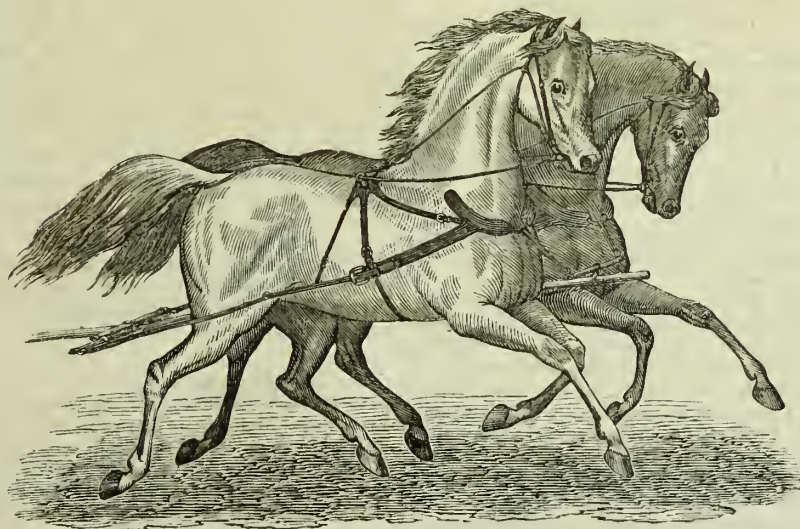
Dutton's Improved Harness.

The accompanying cuts show, both in detail, and practical application, an invention, which is designed to meet fairly all the objections urged against the breast collar harness, and the collar and hames for light driving. We have known



DUTTON'S IMPROVED HARNESS.

of its continued use, both single and double, for over six months; and we can say, from our observation and knowledge of the principles upon which it is constructed, as far as we are able to judge,



APPLICATION OF DUTTON'S IMPROVED HARNESS.

that it fully meets these objections, and is a really efficient and good harness for the purposes to which light harness is applicable—buggy, express wagon, hack use, and all work lighter than severe heavy draught.

The principal points of the invention are these: the insertion into the breast-strap of a plate of steel with flattened ends, C, in the figure, which are so shaped as to fit the lower part of the horse's shoulders even better than the best-fitting collar, and covered with leather, to give the horse a surface sufficiently soft to work against, without danger of chafing, and sufficiently hard to prevent heating and galling. These flattened and covered parts on the sides of the neck are connected by a bow of steel, A (both the sides and the bow being parts of the same steel plate), which is designed to prevent pressure upon the windpipe and jugular vein, and permit of the attachment of the martingales and pole-strap.

This collar is suspended, by straps, B, from a saddle on the withers or back of the horse, which may be either attached to the ordinary saddle as in fig. 1, made part of it, by flattened leather plates to fit under the terrets, as in fig. 2, or may take its place as in fig. 3. The use of this saddle gives the horse greater ease and certainty in holding back, when going down hill, and in supporting the pole, than when the neck has to bear this weight.

The objects to be attained by this improvement are these: Preventing the too common accident of choking-down, and relieving the horse from the distress, in pulling, from pressure on the veins of the neck, inseparable from the use of the breast collar, and perfectly possible in the old-style collar; placing the draft-strain on the sides of the neck, and taking it from across the points of the shoulder, whence the horse pulls at a disadvantage; relieving the neck from all pressure, and the mane from wear; saving the neck from galling and chafing; giving the horse greater confidence and certainty in holding back, than he can have when that strain is resisted from the neck.

This invention, which has been thoroughly tested before being offered to the public, is expected to drive the breast collar entirely out of use, and also the old-fashioned collar and hames for light driving. It has received diplomas at the late Fair of the Mechanics' Institute in San Francisco, at the State Fair at Sacramento, and at the Fair of the Sonoma and Marin District Society, at Petaluma—the only Fairs at which it has been exhibited; and wherever shown, it has received the warmest encomiums.

All information in regard to this invention, the patent for which was obtained through this office, will be cheerfully given by Mr. John Ashton, Tomales, Marin

Keeping Fruit.

The question as to the best method of keeping fruit in this country, is a very important one, and is inducing many important experiments.

L. A. Gould, of Santa Clara, is perhaps conducting one of the most important and expensive experiments in the State. He has built a brick store-house, forty feet by eighty, in Truckee. Through the center of this building he has left a passage-way eight feet wide, and has filled all the rest of the space with boxes of apples. Strips of lath are laid on each tier of boxes, so as to give space for the circulation of air, and to hold them up as a body. The building is supplied with plenty of ventilation at the roof, but from what we learn, we fear there are not sufficient openings near the bottom to give proper circulation. Fruit will undoubtedly keep much better in a low temperature, and Mr. Gould is endeavoring to take advantage of this fact. If he makes a few mistakes this time, he will be able to avoid them next year. The experiment is an important one, and we shall watch it with interest.

Capt. Anderson, of Shady Run, five miles above Alta, between 600 and 1,000 feet below the highest altitude of the Central Railroad, keeps his fruit in a shallow bin under his house. His house stands about four feet above the ground, and the bin sets on the natural surface of the soil. The space under the house is well boarded up, so as to keep the apples from freezing. He keeps his apples here, in good condition, till April and May.

We know of others who pack their fruit in clean sand, in boxes—let the boxes stand out in the weather; only taking the precaution to have the boxes so placed that all the water that falls on them will pass through the sand and drain out. Fruit keeps very fresh and juicy in this way, retaining all its natural flavor until late in the season. Our own experience is, that a cellar under or below the surface of the ground, is a poor place to keep fruit; the air seems to be too close and damp, and induces decay.

We have found that apples, placed in open boxes and left under the tree—screened from the sun, but subject to all the changes of the weather—keeps much better, in our valleys, than under a dry shed, or in a cellar. We have also observed that fruit grown in the mountains keeps much better than that grown in the valleys; and we think that eventually the country will depend for its winter fruit mainly on the mountains, and that, that grown in the valleys will be chiefly dried or preserved.

We would be glad if fruit-growers would give us facts within their knowledge, in reference to this interesting subject. We will publish them for general information.

California Autumn Tinted Leaves.

It is generally remarked that in California we are denied the beautiful tints of autumn foliage so highly enjoyed by the lovers of natural beauty in New England and other Eastern States. But this opinion is not entirely true. We were shown by a lady in Oakland, a fine selection of tinted grape leaves received from Dr. Strenzel, of Martinez, which were quite varied and of as delicate a hue as any beautiful autumn tints we ever saw in New England. These leaves we observed were very tenderly cared for, and more highly prized for their lasting beauty than the collection of choice grapes of the rarest cultivation that came with them. Whether these foliage tints are due to the special climate of the valley in which they grew, or other peculiar reasons, we would thank the Doctor to inform us.

A NEW YORK farmer lately killed himself by lifting a barrel of potatoes.

county, Cal., who is also authorized to dispose of rights for its manufacture and sale.

DRILLING WHEAT.—The *Alta*, in alluding to our article last week in reference to drilling in wheat, says: "About twelve years ago, Mr. Osborn, of Napa, used to drill extensively, but the seasons were not propitious, and possibly his failure had something to do with the discredit into which the drilling machine has fallen. Possibly, however, the chief objection is that many of our fields are sown without the pulverization of the soil required by the machine."

There can be no question, we think, about the superior advantages of drilling over broad-cast sowing, where the work is properly done.

RAIN.—Nevada City has had only 1.54 inches of rain this season against 4.90 last.

A CANADA man has made ten gallons of whisky from thistles.



The Poet Pollock.

It is announced that a son of California's most gifted poet, Edward Pollock, is about to visit this city for the filial purpose of erecting a monument to the memory of his father. It should not have been left for the son to take the initiative in this matter, but the friends of literature in this city should long ago have seen to it, and placed a monument over his remains worthy of the gifted poet and of the city and State he loved so well.

In this connection it seems peculiarly appropriate to reproduce the following exquisite poem written by this gifted child of genius on the 6th of January, 1867. It was given by the poet to a friend who was about to depart for Oregon, Mr. Pollock saying, "Take this; you may, perhaps, read and appreciate the sentiment long after I have ceased to be among the living."

THE PARTING HOUR.

There's something in the "parting hour"
Will chill the warmest heart—
Yet kindred, comrades, lovers, friends,
Are fated all to part.
But this I've seen—and many a pang
Has pressed it on my mind—
The one who goes is happier
Than those he leaves behind.

No matter what the journey be—
Adventurous, dangerous, far,
To the wild deep, or bleak frontier,
To solitude or war;
Still something cheers the heart that dares,
In all of human kind,
And they who go are happier
Than those they leave behind.

The bride goes to the bridegroom's home
With doubtings and with tears,
But does not hope her rainbow spread
Across her cloudy fears?
Alas! the mother who remains,
What comfort can she find
But this—the gone is happier
Than one she leaves behind?

Have you a friend? a comrade dear?—
An old and valued friend?
Be sure your term of sweet discourse
At length will have an end!
And when you part—as part you will—
O, take it not unkind,
That he who goes is happier
Than you he leaves behind.

God wills it so—and so it is;
The pilgrims on the way,
Though weak and worn, more cheerful are
Than all the rest who stay;
And when at last, poor man, subdued,
Lies down to death, resigned,
May he not still be happier far
Than those he leaves behind?

GOOD FOR EVIL.

Farmer Gray had a neighbor who was not the best tempered man in the world, though manly, kind and obliging. He was a shoemaker. His name was Barton. One day in harvest time when every hand on the farm was busy as a bee, this man came over to farmer Gray and said in rather a petulant tone of voice—

"Mr. Gray, I wish you would send over and drive your geese home."

"Why so, Mr. Barton, what have my geese been doing?" the farmer said, in a mild, quiet tone.

"They got in my garden, and I will not have it."

"I am very sorry for it, neighbor Barton, but what can I do?"

"Why, yoke them, and thus keep them on your own premises. It's no kind of a way to let your geese run all over every farm and garden in the neighborhood."

"But I cannot see to it now. It is harvest time, friend Barton, and every man, woman and child on the farm has as much as he or she can do. Try and bear it for a week or so, and then I will see if I can possibly remedy the evil."

"I can't bear it and I won't bear it any longer!" the shoemaker said. "So if you do not take care of them, friend Gray, I shall have to take care of them for you."

"Well, neighbor Barton, you can do as

you please," farmer Gray replied in his usual mild tone. "I am sorry that they trouble you, but I cannot attend to them now."

"I'll attend to them for you, see if I don't," the shoemaker said, still more angrily than when he first called upon farmer Gray.

In about ten minutes the children came home, bearing the bodies of three geese, each without a head.

"We found them lying out in the road," said the oldest of the two children. And when we picked them up, Mr. Barton said—"tell your father that I have yoked his geese for him, to save him trouble, as his hands are all too busy to do it."

"I'd sue him for it!" said Mrs. Gray in an indignant tone.

"And what good would that do?"

"Why it would do a good deal of good. It would teach him better manners. It would punish him."

"And punish us into the bargain. We have lost three geese now, but we still have their good fat bodies to eat. A lawsuit would cost us a good many geese, and not leave us even so much as the feathers, besides giving us a world of trouble and vexation. No, no, Sally, just let it rest and he will be sorry for it, I know."

"Sorry for it, indeed! And what good will his being sorry for it do us, I should like to know. Next he will kill a cow, and then we must be satisfied with his being sorry for it! Now I can tell you that I don't believe in that doctrine. Nor do I believe anything about his being sorry, the crabbed, ill-natured wretch!"

"Don't call hard names, Sally," farmer Gray, said, in a mild, soothing tone, "neighbor Barton was not himself when he killed the geese. Like every other angry person he was just a little insane, and did what he would not have done had he been perfectly in his right mind. When you are a little excited, you know, Sally, that even you do and say unreasonable things."

The next morning, as Mr. Gray was going along the road, he met the shoemaker, and as they had to pass very near to each other, the farmer smiled, and bowed, and spoke kindly. Mr. Barton looked and felt very uneasy, but farmer Gray did not seem to remember the unpleasant incident of the day before.

It was about eleven o'clock of the same day, when one of farmer Gray's little boys came running to him and crying—

"Oh father! father! Mr. Barton's hogs are in our corn field."

"Then I must go and drive them out," said Mr. Gray in a quiet tone.

"Drive them out!" ejaculated Mrs. Gray "drive 'em out indeed! I'd shoot them that's what I'd do! I'd serve him as he served my geese yesterday!"

"But that wouldn't bring the geese to life again, Sally."

"I don't care if it wouldn't. It would be paying him in his own coin, and that's all he deserves."

You know what the Bible says, Sally, about grievous words, and they apply with strong force to grievous actions. No—no I will return neighbor Barton good for evil. That is the best way. He has done wrong and I am sure he is sorry for it. And as I wish him still to remain sorry for so unkind and un-neighborly an action, I intend making use of the best means for keeping him sorry."

And so saying, farmer Gray hurried off towards his corn field. When he arrived there, he found four large hogs tearing down the stalks and pulling off and eating the ripe ears of corn. But he drove them out very calmly, and put up the bars through which they had entered. As he was thus engaged Mr. Barton, who from his own house, had seen the farmer turn the hogs out of his corn field, came hurriedly up, and said:

"I am very sorry, Mr. Gray, indeed I am, that my hogs have done this! I will most cheerfully pay you for what they have destroyed."

"Oh, never mind, friend Barton—never mind. Such things will happen occasionally. My geese, you know, annoy you very much sometimes."

This cut Mr. Barton to the heart. His own ill-natured language and conduct, at a much smaller trespass on his rights mortified him. After a few moments silence, he said:

"The fact is, Mr. Gray, I shall feel better if you will let me pay for this corn. But Mr. Gray shook his head and smiled pleasantly, as he said—

"Don't think any more about it neighbor Barton. It is a matter deserving of no consideration. No doubt my cattle have often trespassed on you, and will trespass on you again. Let us then bear and forbear."

On the next day, while Mr. Gray stood in his door he observed two of his own cows in his neighbor's corn field, browsing away in a quiet, contented manner. As he was going to call one of his hands to go over and drive them out he perceived that Mr. Barton had become acquainted with the mischief that was going on, and had already started for the field of corn.

"Now we will see the effect of yesterday's lesson," the farmer said to himself, and then passed on to observe the manner of the shoemaker towards his cattle in driving them out of the field. In a few minutes Mr. Barton came up to the cows—but instead of throwing stones at them, or striking them with a stick, he merely drove them out in a quiet way, and put up the bars through which they had entered.

"Admirable!" ejaculated Mr. Gray.

After this there was no more trouble about farmer Gray's geese or cattle. Sometimes the geese would get among Barton's hogs, and annoy them while eating, but it did not worry him as it did formerly. If they became too troublesome, he would drive them away, but not by throwing sticks and stones at them as he once did.—*Etc.*

Intuitive Perceptions of Women.

In a conversation I once held with an eminent minister of our church (says Dr. Boardman) he made this observation: "We will say nothing of the manner in which that sex usually conducts an argument, but the intuitive judgment of women are often more to be relied upon than the conclusions which we reach by an elaborate process of reasoning." No man who has an intelligent wife, or is accustomed to the society of educated women, will dispute this. Times without number you must have known them to decide questions on the instant and with unerring accuracy, which you have been poring over for hours, perhaps, with no other results than to find yourself getting deeper and deeper into the tangled maze of doubts and difficulties.

The inference, therefore, is unavoidable, that the man who thinks it is beneath his dignity to take counsel with an intelligent wife stands in his own light, and betrays that lack of judgment which he tacitly attributes to her.

It were hardly generous to allege that they achieve those feats less by reasoning than by a sort of sagacity which approximates to the sure instinct of the animal race; and yet their seems to be some ground for the remark of a witty French writer, that when a man has toiled step by step up a flight of stairs he will be sure to find a woman at the top, but she will not be able to tell how she got there. How she got there, however, is of little moment. If the conclusions a woman has reached are sound, that is all that concerns us. And that they are very apt to be sound on the practical matters of domestic and secular life, nothing but prejudice or self-conceit can prevent us from acknowledging.

FEMALE INFLUENCE is omnipotent for weal or woe. When the destinies of men are all unfolded in the final day, how many of the lost will reflect with anguish on female influence! We need it in the nursery, where mothers can imbue the minds of children with virtuous principles. We need it in childhood and youth when a mother's warning and kind admonitions are like a golden chain. A good mother, then, is the greatest of all earthly blessings. The influence she exerts is the most excellent known on earth. Children brought up by a vigorous mother—who knows her duty and does it—who doubts their own virtue? She makes the earliest, the deepest, and the most lasting impressions on their hearts. They are instructed to hate and shun vice, and the seductions to it, and to admire and practice virtue.

SAYS the Canandaigua Messenger: "A young lady, a graduate of one of the leading institutions of learning in this part of the State, drove her father's milk wagon recently, owing to his illness, and supplied his customers as well as he could have done it himself. The girl didn't lose a bit of reputation thereby, although scores would have disdained to do as much for an angel. She's made of the right kind of stuff, and with her accomplishments she seems to possess both grit and grace."

Mrs. Moon is a Tennessee lady, and when her little boy fell down a 24-foot well she simply grasped the rope, swung herself to the water, fished the child out with her feet and came up with him, hand-over-hand, to dry land and her housework again.

Young Folks' Column.

About Names.

Young people often talk about names and sometimes wonder how certain names came into existence. For the sake of a pleasant chat with the boys and girls who read the RURAL PRESS, we will investigate briefly the origin of some familiar names. Very likely we may have a young friend by the name of Lydia, and if she does not know the origin of her pretty name, she will thank us for finding it and giving her the benefit of it. Lydia is a Greek name—a town of that name is found in Asia Minor—its meaning is supposed to be "pleasant"—probably arising from location of town, or site of some prominent place—it is not at all inappropriate to a girl or lady, especially if she has a good disposition.

Caroline is the feminine of Carolus the Latin of Charles.

Anabel, means loveable, from a Latin word meaning the same thing.

Richard signifies rich-hearted. This name is found as a proper name in nearly all languages.

Oscar, is a Celtic word—meaning "bounding warrior."

Paul, signifies little—a Latin word. Paulus gives it its parentage.

Norman tells its origin and locality in itself; namely, a Northman, a native of Normandy.

Alfred, means "elf in council."

Arnold, signifies "strong as an eagle."

Arthur, means "high; noble."

Next week we have something to suggest to school children in the line of pronunciation of names.

Property for Children.

Every girl and boy should have the care of something belonging to them, to grow or cultivate or improve. When there is plenty of room, as on a farm, boys should own a horse, or a cow, or have a given portion of the garden to cultivate. Girls should be allowed to possess a bee-hive, or a certain number of hens, or fruit-bearing vines. Something of value that by care and proper cultivation increases and returns a value for itself. Children will acquire an interest, and derive a happiness from this form of industry that will repay the effort and trial. If a young girl is fond of hens, or turkeys, let her have a few of her own, let her take the entire charge of them, selling the eggs and chicks, and appropriating the money to the increase of her stock or otherwise judiciously. Give her poultry books and agricultural papers to read, and in time, if she is a girl of ambition, she will have a nice little increase of her own. The same with boys. Let the children own something—possession is a great incentive to progress. Boys and girls, be sure you have some property of your own, and make all you can of it.

THE SAW OF CONTENTION.—"Oh, Frank, come and see how hot my saw gets when I rub it. When I draw it through the board a while, it is most hot enough to set fire to it."

"That is the friction," said Frank, with all the superior wisdom of two years more than Eddie boasted of.

"Yes," said sister Mary, who was passing; "it is the friction; but do you know what it makes me think of?"

"No, what?" asked both of the boys at once.

"Of two little boys who were quarreling over a trifle this morning, and the more they talked, the hotter their tempers grew, until there was no knowing what might have happened, if mother had not thrown cold water on the fire by sending them into separate rooms."

The boys hung their heads, and Mary went on:

"There is an old proverb which says, 'The longer the saw of contention is drawn, the hotter it grows.'"

"I tell you what, Frank," said Eddie, "when we find ourselves getting angry, let's run out and use the saw Kriss Kringle brought me, and then we won't find time for the saw of contention."—*Young Reaper.*

MISS ELIZABETH STUART, daughter of the late Gilbert Stuart, has resided many years in an old-fashioned, picturesque cottage in Newport, Rhode Island. She inherits her father's genius for the arts, and, without having devoted a lifetime to their pursuits, has executed a great number of paintings, which are far beyond mediocrity. She has made several copies of her father's celebrated head of Washington.

DOMESTIC ECONOMY.

To Preserve Hams and Bacon.

After the ham or bacon is well cured and smoked, it will keep any reasonable length of time, provided it can be kept altogether free from the bane of this class of provision, the skipper fly. This little insect will puncture anything that is not as hard or impenetrable as leather, and if its ovipositor is long enough, will lay a perfect nest of eggs in the meat enclosed in the covering. When this fact is once ascertained and acknowledged, we can readily contend with its ravages.

To do this with certainty, take thick brown paper and envelope the meat entirely, covering every part so completely that no one portion is exposed; tie it on firmly with twine; then slip the ham or piece of bacon into a factory cotton bag, and hang it up in a cool, dry place. The fly will be "round" very shortly, and would deposit its eggs in the ham, although enveloped in cotton; but the substratum of strong brown paper prevents it from doing so, the ovipositor is not long enough to reach through cotton and paper, especially when the paper is inside the cotton. The insect, however, would soon remedy this difficulty by finding out an interstice in the paper, through which it could crawl, and in which it could do any amount of mischief; but the cotton bag prevents it, as it cannot possibly crawl through any of its interstices, consequently the meat enveloped in the paper inside is quite safe. Many recommend whitewashing the bag, or sewing hams up in cotton cloth, and whitewashing each completely. This is effectual enough if there are no cracks in the plaster or the slightest opening in the bag, through which the ovipositor can be passed and the bacon reached. Generally, however, there are plenty of such cracks or openings, and the insect will readily hunt for and find them. There being no defence inside of this bag as the paper above recommended, therefore there exists no difficulty in reaching the meat, and the first thing we know is that our hams are spoiled, and also the cotton in which the ham was sewn up, for they cannot, after being whitewashed, be again used.

NATURAL PERFUME.—A small, wide-mouthed glass jar, such as used by museums for specimens of natural history, should be filled with ether, and closed with a glass stopper dipped in glycerine to thoroughly exclude the air. Fill this jar during the season with the fresh blossoms of any fragrant plant, cut, after the dew is dry, and stripped of leaf and stem as well as calyx. The petals alone of roses, violets, tuberose or pinks should be used; heliotropes should be cut close to the panicle of bloom. Of course a jar is allotted to each kind of blossom. The ether has the property of taking up the fragrant particles from flowers, and when evaporated, leaves the essential oil of the plant behind, a very few drops of which in deodorized alcohol gives a delicious extract. Quantities of flowers are required, and the petals in the jar should be changed for fresh ones every day. Only skill and patience will succeed in the perfumer's art; but one success is worth many failures.

GRAPE JELLY.—Take ripe, juicy grapes, pick them from the stems; put them into a large earthen pan, and mash them with the back of a wooden ladle, or with a potato beetle. Put them into a kettle (without water), cover them closely, and let them boil for a quarter of an hour, stirring them up occasionally from the bottom. Then squeeze them through a jelly-bag, and to each pint of juice allow a pound of loaf sugar. Dissolve the sugar in grape juice; then put it over a quick fire, in a preserving kettle, and boil and skim it twenty minutes. When it is a clear, thick jelly, take it off, put it warm into tumblers, and cover them with double tissue paper cut to fit the inside. In the same manner you may make an excellent jelly for common use, of ripe fox grapes and the best brown sugar; mixing with the sugar, before it goes to the fire, a little beaten white of an egg; allowing two whites to two pounds of sugar.—*Miss Leslie's Cook Book.*

HOW TO BURN KEROSENE WITHOUT DANGER.—Cram the wick into the lamp, fill up the interstices with sponge, and saturate the whole thoroughly with kerosene; as long as any oil remains in the wick the lamp keeps burning, and no danger need be apprehended from upsetting and even breaking the lamp. A lamp so used is perfectly safe.

TO PREPARE SKELETON LEAVES.—A solution of caustic soda is made by dissolving three ounces of washing soda in two pints of boiling water, and adding one and one-half ounce of quicklime, previously slaked; boil for ten minutes, decant the clear solution and bring it to the boil again. During ebullition add the leaves; boil briskly for some time—say an hour—occasionally adding hot water, to supply the place of that lost by evaporation. Take out a leaf, and put it into a vessel of water, and while there rub it with the fingers. If the epidermis and parenchyma separate easily, the rest of the leaves may be removed from the lye and treated in the same way; but if not, then the boiling must be continued for a time longer. To bleach the skeletons, mix about a drachm of hypochlorite of lime (bleaching powder), with a pint of water, adding sufficient acetic acid to liberate the chlorine. Steep the leaves in this till they are whitened (about ten minutes), taking care not to let them stay in too long, otherwise they are apt to become brittle. Put them into clean water and float them out on pieces of paper. Lastly, remove them from the paper before they are quite dry, and place them in a book or botanical press.

HOW TO JUDGE THE QUALITY OF PETROLEUM.—Good petroleum should have the following characteristics:

1. The color should be white or light yellow, with blue reflection; clear yellow indicates imperfect purification, or adulteration with inferior oil.

2. The odor should be faint, not disagreeable. The specific gravity at 60 Fah., ought not to be below 0.795, nor above 0.84.

3. When mixed with an equal volume of sulphuric acid of the density of 1.53, the color ought not to become darker, but on the contrary, lighter.

A petroleum that satisfies all these conditions, and possesses the proper flashing point, may be set down as a pure and safe article. To test the color, care should be taken to select a glass bottle of good quality, perfectly white and clear.—*Ironmonger.*

BUCKWHEAT CAKES are an almost universal favorite at the winter breakfast table. Nature seems to crave them more at that season than any other, the reason for which scientific investigation has made very plain—they abound in those elements by which Nature most easily keeps up the animal heat of the body. Buckwheat is moreover very nutritious and will keep away hunger longer than almost any other food we can eat. A distinguished Judge of the Supreme Court once said that when he took buckwheat cakes for breakfast he could sit on the bench the whole day without being uncomfortably hungry; but if the cakes were omitted he felt greatly in need of a lunch by one o'clock.

HONEY AND CREAM—ANGEL'S FOOD.—Honey alone is considered quite delicious enough, but with the addition of cream, it is almost beyond description, and so far from being made too rich, it can then be eaten by many with whom honey otherwise disagrees. It is the most delightful dish I know of, if I except one called "Angel's Food," made of oranges peeled, cut in slices, and between each layer sprinkled with desiccated cocoa nut and sugar—to stand an hour or two then eaten with cream. In all cases orange and lemon seeds must be carefully removed, as they destroy everything by their bitter flavor.

EXTRACTION OF PERFUME FROM FLOWERS. In the season for extracting perfume from sweet flowers, gather quantities of rose leaves, sweet geraniums, heliotrope blossoms, carnations, sweet peas, and any fragrant flowers. Place them in a small earthen jar and strew salt plentifully between the layers of leaves and flowers. Set the jar in the cellar tightly covered up and let it stand for six or seven weeks. Then uncover it, and strain out through thin muslin all the liquid that is in it, squeezing the flowers thoroughly after the first straining.

RENDERING BOOTS WATER-PROOF.—The *Irish Farmers' Gazette* gives the following recipe for this purpose: Boil one quart linseed oil, with half a pound Venice turpentine, with which paint the leather frequently while warm, but not hot, till the leather will absorb no more.

A NEW FLOUR PEST.—A Western paper complains of a new pest worm in flour intended for domestic use. A black bug, a quarter of an inch long lays eggs in the flour which hatch in about ten days.

All knowledge is not in books; therefore cultivate a habit of observation.

Domestic Receipts.

STEAMED PUDDING.—Two eggs, two teacupfuls of sour milk, one teaspoonful of soda, a little salt, flour enough to make it quite thick, or it will be heavy. Beat this smooth. Add cherries, raspberries, currants or any dried fruit you may have. Steam two hours, taking care that the water is kept over the pudding or bag all the time, and that it does not stop boiling. Eat with cream and sugar, hard sauce, or any liquid sauce you may prefer.

QUAIL PIE.—Prepare puff-paste as for chicken pie, and cover the bottom of the baking-pan with it. Parboil the birds and cut through the back. Place them in the pie breast to back, skin side down; sprinkle over them pepper, salt and a dust of flour, and add for ten quarts a cup of melted butter; pour in as much of the broth in which the birds were boiled as it will hold, and cover with a top crust, cut a gash in the top and bake in a brisk oven.

POTATO PAN PIE.—Take four or five large sweet potatoes, cut in small pieces and boil till cooked through; pour off the water and put them in baking dish; then put in three heaping tablespoonfuls of sugar, a tablespoonful of butter, a little nutmeg, and last a cup of cold water. Make a crust like pie crust, only thicker and just large enough to cover the dish; cut a slit in the crust and put it on top of the potatoes and bake till a light brown. This dish is not a fancy one for a light dessert, but a good substantial part of a meal, and is pronounced excellent.

TEA-LEAVES are a remedy for burns and scalds. A poultice of tea-leaves applied to small burns and scalds, afford immediate relief. The leaves are softened with hot water, and, while quite warm, applied upon cotton over the entire burned surface. This application discolors and apparently tans the parts, and removes the acute sensibility and tenderness.

HORSERADISH SAUCE.—One teacup of grated horseradish, one wineglass of good cider vinegar, into which has been dissolved a dessert-spoonful of loaf sugar, the same of mustard, a teaspoonful of salt; stir this to the horseradish. Serve with hot or cold meats.

BEEF KIDNEY should be parboiled; cut in small pieces, seasoned highly with pepper and salt. Serve with tomato sauce.

Mechanical Hints.

NON-SMOKING CHIMNEYS.—To build a chimney so that it will not smoke, the chief point is to make the throat of the chimney not less than four inches broad and twelve inches long; then the chimney should be abruptly enlarged to double the size, and so continued for one foot or more; then it may be gradually tapered off as desired. But the inside of the chimney, throughout its whole length to the top, should be plastered very smooth with good mortar, which will harden with age. The area of a chimney should be at least half a square foot, and no flue less than sixty square inches. The best shape for a chimney is circular or many-sided, as giving less friction (brick is the best material, as it is a non-conductor), and the higher above the roof the better.

TO LINE OIL PAINTINGS.—Take a piece of unbleached cotton cloth and stretch upon a frame, and size it with a weak size. When dry take $\frac{1}{4}$ oz. spirits turpentine, 1 drachm of camphor dissolved in 4 oz. of cold drawn linseed oil; add 2 oz. white lead, 2 oz. amber and 4 oz. finely washed and dried whiting. Mix all together; apply to the cloth, rubbing it in well; after the second coat, pumice down smooth. Then give the back of the picture a coat, and pumice that; then coat both and put them together upon a table. Press them thoroughly together, so as to force all the air out from between the surfaces, and bring them into perfect contact. Let them dry a few days.

FRENCH POLISH.—An excellent article may be made as follows: Take 1 ounce of shellac, $\frac{1}{4}$ oz. gum arabic, $\frac{1}{4}$ oz. gum copal; bruise them well, and sift through a piece of muslin; then put them with a pint of spirits of wine, into a closely corked vessel; place it in a very warm situation, and shake frequently every day till the gums are dissolved. Then strain through muslin, and keep well corked for use.

VARNISH FOR SILVER.—Elemi, 30 parts; white amber, 45 parts; sarcocol, 30 parts; spirits of turpentine, 375 parts. The varnish should be employed in a heated state, and the metal to which it is applied should be heated also. It answers equally well for plated goods.

LIFE THOUGHTS.

OUT of debt—out of danger.

REVENGE a wrong, by forgiving it.

BETTER be alone than in bad company.

BETTER go around than fall into the ditch.

CONSTANT occupation prevents temptation.

A WISE man is never less alone than when he is alone.

To be angry is to avenge the faults of others upon themselves.

PRAYER is not overcoming God's reluctance, it is laying hold of his willingness.

He that studies books alone will know how things ought to be; and he that studies men will know how things are.

TAKE care of your thoughts, for they lead to words and acts—just as brooks lead to rivers, and rivers to the ocean.

A PERSON who undertakes to raise himself by scandalizing others, might just as well sit down on a wheelbarrow and undertake to wheel himself.

THERE are some men so exquisitely selfish that they go through life not only without ever being loved, but without ever wishing to be.

PRIDE is the friend of the flatterer, the mother of envy, the nurse of fury, the sin of devils; and it hates superiors, scorns inferiors, and owns no equal.

LAZINESS grows on people; it begins in cobwebs, and ends in iron chains. The more business a man has to do, the more he is able to accomplish, for he learns to economize his time.

A CHRISTIAN should never plead spirituality for being a sloven. If he be a shoe cleaner, he should be the best in the parish.

A WORD of kindness is seldom spoken in vain. It is a seed which, even when dropped by chance, springs up a flower.

Every-day Religion.

We must come back to our point which is, not to urge all of you to give yourselves up to a mission work, but to serve God more and more in connection with your daily calling. I have heard that a woman who has a mission makes a poor wife and a bad mother; this is very possible, and at the same time very lamentable; but the mission I would urge is not of this sort. Dirty rooms, slatternly gowns, and children with unwashed faces, are swift witnesses against the sincerity of those who keep others vineyards and neglect their own. I have no faith in that woman who talks of grace and glory abroad, and uses no soap and water at home. Let the buttons be on the shirts, let the children's socks be mended. Let the roast mutton be done to a turn, let the house be as neat as a new pin, and the home be as happy as home can be. Serve God by doing common actions in a heavenly spirit, and then, if your daily calling only leaves you cracks and crevices of time, fill these up with holy service.

A GOOD MORAL CHARACTER.—There is nothing which adds so much to the beauty and power of man as a good moral character. It is his wealth—his influence—his life. It dignifies him in every station, exalts him in every condition, and glorifies him in every period of his life. Such a character is more to be desired than anything else on earth. It makes a man free and independent. No servile tool, no crouching sycophant, no treacherous honor-seeker, ever bore such a character. The pure joys of truth and righteousness never spring in such persons. If young men but knew how much a good character would dignify and exalt them, how glorious it would make their prospects, even in this life, never should we find them yielding to the groveling and base-born purposes of human nature which destroy body and soul.

WASHINGTON.—One of the most striking things ever said of him is, "that he changed mankind's ideas of political greatness." To commanding talent, and to success, the common elements of such greatness, he added disregard of self, a spotlessness of motive, a steady submission to every public and private duty, which threw far into the shade the whole crowd of vulgar great. The consequence is, that his fame is as enduring as his principles, as lasting as truth and virtue themselves.

Among the Oakland Gardens.

Last week we took a walk among the nurseries at Oakland—the day was fraught with the best of sunshine, clear atmosphere and gentle breezes from the Bay—it was just such a day as puts one in complete good humor, and makes us satisfied with life generally. With such a feeling we were disposed to find beauty in every green shrub and flowering plant.

Hutchinson's Nursery,

about one mile from the Oakland depot, on the Telegraph road, claimed the first call. A profusion of growing trees, in thrifty appearance, filled up the main grounds—young evergreens are doing finely. The hot-houses were filled with potted plants, apparently growing from transplants. Order and neatness is a radical feature in Mr. Hutchinson's grounds.

Kelsey's.

Everybody in Oakland knows Kelsey, by name—he has the most extensive grounds and finest buildings of any nursery we visited. His hotel, which in the very heart of the elegant garden, is well patronized by boarders who desire a little seclusion. We found some exquisite flowers in the hot-houses, many rare plants and flowering vines of great beauty. Also a profusion of ornamental grasses. Mr. Kelsey has issued a large catalogue, embracing the full growth of the nursery. The RURAL PRESS laid upon the table as well as several Eastern papers devoted to floral and agricultural matters.

Hampton.

Nearer Oakland is situated the nursery of John Hampton. Like his neighbors, he has brought his floral experiments to an attractive and successful result. Mr. Hampton's grounds are delightfully situated. Large evergreen trees form a pretty row facing the Telegraph road, and the garden slopes gently from the south; several fine varieties of blossoming semi-tropical plants attracted our attention.

We could spend a week among these gardens and not weary of inhaling the delicate odors of the plants and the opening flowers.

Dolan's

nursery we were obliged to pass by without a visit—it is nearer the terminus. Oakland may well be called the flower-garden of California. The grounds around the greater portion of the private residences are models of taste and good culture. The only fault to be found is the tendency to choke the space with too many trees and large shrubs. We much prefer the sweep of a plain grass plat with trees at respectful distances. Hedges of enormous evergreens around private grounds are (in our mind) in bad taste.

A HUGE SYCAMORE TREE.—In the Sausalito vineyard at Los Angeles, there is a wonder of a tree. A sycamore nearly two hundred years old, spreads its mammoth branches over all the court, and covers the large distillery with its hundred arms. It is really wonderful what a space it shades, and driving under it one can look up and around at the foliage spreading so far in every direction, and yet hardly realize its great proportions. Its huge trunk is short and full of knots—its bark really shows scratches of the fingers of time—it is an aged curiosity, and would make a splendid subject for a photograph or an engraving.

WINE MAKING NEAR HEALDSBURG.—Mr. Jireh Luce, who owns a fine ranch and vineyard just across the river from Healdsburg, has made 2,600 gallons of wine this season. From a sample of his vintage of last year, which we recently "inspected," we should not be surprised to find the product of his vineyard classed, at an early day, among the very best in the State. But a small portion of his vines have as yet come into full bearing.

THE WATER QUESTION.

BY A. B. BOWERS, CIVIL ENGINEER.

[Continued.]

Lands Bordering upon Large Bodies of Water.

The construction of levees for the protection of lands bordering upon large sheets of water and exposed to the action of waves, is one of the most obstinate problems encountered by the engineer; and is always attended with great expense. The assessment on that portion of the New Jersey meadows, now in process of reclamation, is eighty dollars per acre. Whether this is sufficient or not, remains to be seen.

Swamp Lands Bordering Upon Tulare Lake.

Levees for the protection of lands bordering upon Tulare Lake, would be exposed to the action of waves, having an unbroken sweep of more than twenty miles; and, during the prevalence of heavy storms, these waves would dash against the levees, like surf on the sea shore. These levees, therefore, must be enormously strong, and the cost of their construction and maintenance, would probably exceed the value of the land they would reclaim.

A better plan would be to drain the lake by cutting a navigable channel through the transverse swell of alluvial deposit, separating it from the valley of the San Joaquin. This would reclaim not only the swamp land, but a large portion of the bed of the lake, and extend steam navigation for a considerable portion of the year, probably more than one hundred miles farther up the valley.

Tulare Lake as a Reservoir.

It has often been proposed to use this basin as a reservoir for irrigation, and some examinations are now being made with the view of ascertaining whether this be feasible. A great drawback to this scheme, is the shallowness of the basin, and the area of the lake, which is so great that the evaporation from its surface considerably exceeds the average annual influx of water. This is shown by the constant recession of the lake, for a series of years, until an extraordinary flood comes to fill it up again.

To venture an opinion in advance of surveys would be hazardous in the extreme. One thing, however, is certain. The valley of the San Joaquin must be irrigated, even at the expense, if necessary, of countless small reservoirs in the foot hills and mountains. Perhaps the most economical plan, may be, to diminish the area of Tulare Lake as much as possible, by drainage, surround this circumscribed area by heavy embankments, and dam the outlet. This would save a vast amount of water that now passes off by evaporation. Please observe our *perhaps* however, for the expression of an opinion on the meagre data within our reach, would justify our consignment to the State Boarding House in Stockton.

The surveys of which we have spoken, are being made under the direction of R. M. Brereton, C. E., an English gentleman, who is understood to have had experience in hydraulic engineering in India; and it is presumed that his examination will be sufficiently thorough to set this vexed question at rest.

Lands North of San Pablo Bay.

The Salt marsh along the northern shores of San Pablo Bay, is in many places, hardly covered by the ordinary high tide. A few years ago, during a protracted southeast storm, the incoming tide, driven by the wind, meeting the swollen waters of the Sacramento river, and of the Sonoma, Petaluma, and San Antonio Creeks, so flooded this land, that a schooner laden with lumber, was carried high and dry, several rods inland over the marsh, which at that time, everywhere offered to the eye, a wide waste of crested waves.

Embankments

for the protection of this land, should be set back something like a hundred yards from the shore, so that the waves may have an opportunity to exhaust their force before reaching the levee, which at this distance from the shore need not be more than five or six feet high. The soil packs very hard when moist, though it cracks, and, if cultivated, and well pulverized, drifts when dry. The levee should be made broad enough on top for a roadway, the travel over which, without being sufficient to harm the levee, would make it compact and strong.

The Common Practice

is, to remove the sod from the base of the levee and surface of the ditch, to the depth of about six inches, and lay it away

for the facing of the sides; and when these are well beaten into place with the back of the shovel, the levee becomes so matted with roots and covered with grass as to withstand a considerable action of the waves which usually effect it only for a few hours at any one time. But this facing of the sides is expensive, and much less valuable here than where there are frequent summer showers; for such is the aridity of our climate, that these sods seldom take root, and on the tule lands, where this practice is not much in vogue frequently dry up and float away; though very low levees, constantly washed by the tides, retain sufficient moisture to become sodded over.

The ditch should be on the inside, so as to serve for drainage, and not be exposed to the action of waves. If only for the discharge of waters of filtration, and the rainfall on the marsh itself, the floodgates may be few and small.

The salt marsh along the southern portions of the Bay of San Francisco, being less exposed to the action of storm waves, will need less protection, and other things being equal, can be reclaimed at less expense.

Swamp Land Irrigation.

Let it be borne in mind, however, that the soil of all reclaimed swamp land, whether salt or fresh, is so poorly adapted to the retention of moisture as often to suffer from drouth even in lands of frequent summer rainfall, and is almost valueless in dry climates, without irrigation. Paradoxical as it may seem it not unfrequently requires under drainage also, as is well known to all engineers of experience in this kind of work. Salt marsh, however, is sometimes so constantly wrapped in fog, as to derive much moisture from that, though as a general rule, the fog does not lay low enough to be of much service. We have no reliable information on this point, concerning the marsh of which we have been speaking, but the fog-banks of Tomales Bay hang at an elevation of from fifty to several hundred feet above the water; and the grain on the hill-sides, bathed in fog, make ranker growth, and are two weeks later in ripening than that on the narrow strip below the fog along the shore.

LUBRICATING OIL Co.—Among the number of recent inventions on this coast, we would call the attention of our readers to a late patent, entitled "Gruber's Lubricating Oil," manufactured and put up for the market, at the corner of California and Market streets, in this city. It will be seen by a reference to our advertising columns, that it is claimed to be superior to any other oil in use, for printing presses, wagons, carriages, and all classes of machinery, whether used on the farm or in any of the mechanical arts. We understand that samples have been tested by prominent printing and manufacturing establishments in this city with the most satisfactory results. We are informed by the printers, who made a trial of the sample sent to us, that it performs all that is claimed for it, that it does not gum, while it keeps the presses cool and clear, and in first-rate running order. It is well worthy of a fair trial.

THE BEST FISHING PLACE FOR SALMON in the Sacramento river, is well known to be about Rio Vista. The reason of this, as explained by Mr. B. B. Redding, State Fish Commissioner, is as follows:—When the salmon return from the ocean they are infested with parasites which they rid themselves of by tarrying a while at this point, where the salt and fresh waters mingle. Again, in returning, a similar halt is made to rid themselves of fresh water parasites thus offering an extended and profitable fishing season at Rio Vista, while other parts of the stream are employed by Mr. Salmon more strictly as a thoroughfare.

FARMERS' CLUB AT SACRAMENTO.—We are glad to learn that the initiatory steps are being taken to organize a Farmers' Club at Sacramento, the object being a general discussion of Agricultural and Horticultural subjects. This is a step in the right direction and we hope and believe it will be a success.

Who Should Advertise.

The larger the circulation of a paper the better medium it becomes for those who have useful articles to introduce and dispose of to the people. The publication of a first-class agricultural paper, in San Francisco was an experiment with the publishers of the RURAL PRESS at the start; but we have given the experiment nearly a year's trial, and it finds us now with a large circulation, and an extensive daily correspondence, with farmers, mechanics and industrial husbandry, scattered all over the Pacific Coast. We have taken a pride in the publication of this paper that prompted us to furnish to our readers, a paper full of reliable and valuable information upon all subjects.

While we endeavor to give the farmer the latest reports of produce, and the market, we furnish his wife with that which must be of interest to her in her labors, and such choice miscellany as affords all classes of readers a large amount of pleasant and profitable reading.

Our advertising columns are open only to reliable and worthy advertisements, and from day to day we are in receipt of letters from all parts of our own and sister States and Territories, asking information upon various topics, relative to articles of convenience and value to be found in different lines of trade in this city.

It would be impossible for us to visit all the manufactories and houses of trade for suitable information in reply to all this mass of correspondence; neither would it be right for us to waste our time in benefiting the sellers here, with this kind of advertising.

We would, however, suggest the propriety of the various firms, whose specialties are for the country trade, especially, advertising in the columns of the RURAL PRESS. Here we have valuable inventions of labor-saving character, that the people of adjacent counties are desirous of obtaining; among which we may mention, patent churns, washing soaps and preparations, dairy utensils, farming implements, kitchen conveniences, improved cutlery, new styles of house ornaments, etc. A gentleman in Humboldt county, sends down to enquire about the price of butter kegs, and egg-carriers; another from a nearer point wishes to know where he shall apply for the best chain pump. We have good agents traveling all the time in various portions of the State, and the circulation of the Press is daily increasing among that class of people the advertiser desires to seek. We desire that our columns shall furnish a directory to our readers of such branches of trade and industry, as they are necessitated to take out and deal with.

Items in Brief.

NORTHERN IOWA, though countless hordes of potato bugs have spent the season there, never had so large and nice a crop of potatoes as this year, and it is now doubted whether they were genuine bugs or agricultural angels in disguise.

At San Rafael, an association has purchased a tract of 4,000 acres adjoining the town, and it is contemplated to divide the tract into villa sites, and to exclude all unwholesome factories and trades from the new site.

DURING the month of October last, the Eastern shipments by railroad from Marysville embraced 3,460 pounds of wine, 60,284 pounds of fruit, and 2,443 pounds of unspecified freight.

THE cheese factory at Oakland, Fond du Lac county, Wis., has manufactured 85,000 pounds of cheese this season, consuming 850,000 pounds of milk.

WILD GAME is becoming plenty. It is said that 95 geese were killed at three shots on a lake near Salinas, Monterey county, last week.

A MATCH for \$25,000 is to come off at Sacramento on December 4th, between the horses *Nell Flaherty* and *Tom Atchinson*.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Nov. 23.

FLOUR—The local inquiry continues active, with very little demand for export. Sales reported embrace 3,500 bbls. Cal. extra, 3,500 Oregon extra and 2,000 Cal., part for export, private. We quote prices as follows:

Superfine, \$6.50@6.75; extra, in sacks, of 196 lbs. \$7.50. Standard Oregon brands, extra, may be quoted at \$7.50.

WHEAT—Both shipping and milling grades in fair demand. Sales aggregate some 35,000 sacks fair to choice at \$2.45@2.65.

The latest Liverpool market quotation comes through at 13s.—without change since last report.

BARLEY—Has been rather quiet during the past week. Sales embrace 10,000 sacks ordinary coast to choice bay, at \$1.95@2.10. Firm at close at \$1.95@2.10.

OATS—The demand has been fair for this grain since our last report. Sales embrace 10,000 sacks ordinary coast to choice bay, at \$1.80@2.00, which is the range at the close.

CORN—Is quotable at \$2.00@2.20 for yellow and white respectively @ 100 lbs.

CORNMEAL—Is quotable at \$2.75@3.25, from the mill.

BUCKWHEAT—Demand light at \$2.50.

RYE—According to quality is quotable at \$2.25@2.35.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Selling at \$30 per ton from the mill. **MIDDINGS**—For feed are selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Has been in good demand at full prices during the past seven days, and prices at close are \$20@26 for fair to choice @ ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—The receipts have been free and demand fair, during the week under review. Good to choice qualities of Red are quoted at 70c@81c; fair to choice Humboldt at 90@50c.

SWEET POTATOES—Are selling at \$1.25@1.50.

HOPS—We quote new at 40@60c.

HIDES—During past week 1,722 Cal. dry sold at 17@18 and 1,627 salted at 9@9½c.

WOOL—The market shows no improvement of any note, and prices are without essential change. Sales aggregate 425,000 lbs on private terms. We quote good shipping grades at 22@26c. Burry and dirty in large supply, but still neglected.

TALLOW—Market steady at 9¼@9½c @ lb. **SEEDS**—Flax 3c.; Canary, 7@7½c.; Alfalfa, 15@16c.; Mustard—California Brown, 3@6c.; Cal. White 3½@4½c. @ lb.

PROVISIONS—California Bacon 14@15½c.; Oregon, 15½@16c.; Eastern do. 13½@14½c.; for clean and 16@17 for sugar-cured Breakfast; Cal. Hams 14½@15½c.; Or. 15½@16c.; California Sugar-cured Hams, 17@18c.; Oregon do. 17@18c.; Eastern do. 19@21c.; California Smoked Beef, 13½@14c.

BEANS—Market continues firm. The following are jobbing rates: Pea 3.25@3.50; small White 2.75@3.25; small Butter 2.50@2.75; Pink 2.12½@2.50; Bayo, 3.75@4.00; Navy 3.50 @ 100 lbs.

ONIONS—We quote the range from fair to choice at 80c@1.37 @ 100 lbs.

NUTS—California Almonds, 8@10c. for hard and 15@20c for soft shell; Peanuts, 5@7c.; Pecan, 25c @ lb. Walnuts, new, 12c; Hickory, 12c; Brazil, 16c.; Chili Walnuts 10c

COFFEE—Costa Rica 21c; Guatemala 20c; Java 25½c; Manilla, 19½@20; Rio 19½@20. Ground Coffee in cases 30c.

SPICES—Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Whole Pepper 19c. Ground Spices—Allspice \$1.00 @ doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 @ doz.; Mace \$1.50 @ lb.; Ginger 15c @ lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9c @ lb. Do 2d quality 7@8c @ lb. Do 3d do 5@6c @ lb.

VEAL—Quotable at 8@10c.

MUTTON—7c @ lb.

LAMB—Quotable at 8c @ lb.

PORK—Undressed grain-fed is quotable at 6@6½c. dressed, grain-fed, 8½@8¾c.

POULTRY—Live Turkeys, 16c @ lb; Hens and large Roosters, \$5.00@6.00; Spring Chickens, \$4.00@4.50. Ducks, tame, \$6.00@7.00 per doz.; Geese, \$12@15 @ dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87½; English Snipe, \$1.75@2.00; Mallard Ducks, \$3.00@3.50; Small Ducks, \$1.50; Wild Geese @ doz. \$1.50@3.00; Venison @ lb., 6@8c; Terrapin @ doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@65c; California firkin butter, 27½@37½c. Pickled 32½@37½. Eastern firkin 20@35c.

CHEESE—California 14@18c, Eastern, 16@17c. Eggs—California fresh, 62½@65c. @ doz.

LARD—California 13@14; Oregon in bbls. and kegs 13@13½c.; do in cases 14½@15.

FRUIT.

| | | |
|--------------------------------|---------|---------|
| Tahitian Oranges..... | \$30 00 | @ 35 00 |
| Limes, 1,000..... | 8 00 | @ 10 00 |
| Pine Apples, 1 doz..... | 7 00 | @ — |
| Australian Lemons, 100..... | 4 50 | @ — |
| Sicily do..... | 11 00 | @ — |
| Bananas, 1 bunch..... | 2 50 | @ 4 00 |
| Cocoanuts, 100..... | 6 50 | @ — |
| Apples, eating, 1 box..... | 75 | @ 1 50 |
| do cooking do..... | 75 | @ 1 25 |
| Pears, cooking..... | 50 | @ 1 00 |
| do eating..... | 1 00 | @ 1 50 |
| Peaches, 1 box..... | — | @ — |
| Choice Mountain do..... | — | @ — |
| Quinces, 1 box..... | 1 00 | @ 1 25 |
| Strawberries, 1 lb..... | 1 25 | @ 25 |
| Plums, 1 box..... | 1 00 | @ 1 50 |
| Prunes, 1 lb..... | — | @ — |
| Figs, 1 lb..... | — | @ 10 |
| Grapes, Sweetwater, 1 lb..... | — | @ — |
| Mission do..... | 1 | @ 3 |
| Rose of Peru do..... | 4 | @ 6 |
| Black Hamburg do..... | 4 | @ 6 |
| Muscad of Alexandria do..... | 3 | @ 8 |
| Flame Tokay do..... | 4 | @ 6 |
| Black Morocco 1 lb..... | 5 | @ 12½ |
| Isabella do..... | — | @ — |
| Eastern Cranberries 1 bbl..... | 17 00 | @ 17 50 |
| Watermelons, each..... | 4 | @ 8 |
| Cantaloupes, each..... | 4 | @ 8 |

DRIED FRUIT.

| | | |
|-----------------------|----|-------|
| Apples, 1 lb..... | 6 | @ 7 |
| Pears 1 lb..... | 8 | @ 10 |
| Peaches, 1 lb..... | 9 | @ 9½ |
| Apricots, 1 lb..... | 8 | @ 8½ |
| Plums, 1 lb..... | 6 | @ 8 |
| Pitted do..... | 18 | @ 20 |
| Raisins 1 lb..... | 10 | @ 15 |
| Black Figs, 1 lb..... | 8 | @ 12½ |
| White do..... | 15 | @ 20 |

VEGETABLES.

| | | |
|--------------------------------|------|--------|
| Cabbage, 1 lb..... | 1 | @ 1½ |
| Garlic, 1 lb..... | 1 | @ — |
| String Beans, 1 lb..... | — | @ — |
| Summer Squash, 100..... | — | @ — |
| Tomatoes, 1 box..... | 1 00 | @ 1 50 |
| Cucumbers, 1 box..... | 1 25 | @ 1 50 |
| Green Corn, 1 doz..... | — | @ — |
| Marrowfat Squash, per ton..... | 5 00 | @ 8 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Continued inquiry for ploughs, otherwise the market remains unchanged rates for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—There continues a fair export demand for lumber, and the local trade has also been good during the period under review. Dealers pay for cargoes as follows: Oregon—rough \$13; do. dressed \$23; Spruce \$16.50. Redwood Lumber Association's prices are as follows:

| | | |
|--|---------|------------|
| Merchantable worked rustic..... | \$31 00 | to \$32 50 |
| Refuse do do..... | 20 00 | to 21 50 |
| Merchantable surfaced and rough clear..... | 28 00 | to 30 00 |
| Refuse surfaced and rough..... | 18 00 | to 20 00 |
| Merchantable beaded flooring..... | 28 00 | to 30 00 |
| Refuse do do..... | 18 00 | to 20 00 |
| Merchantable rough..... | 15 00 | to 16 00 |
| Refuse do do..... | 11 00 | to 12 00 |
| Fancy Pickets..... | 22 50 | to 25 00 |
| Rough Pickets..... | 15 00 | to 16 00 |

The mill price for cargo lots from Northern Ports is \$8.50@10 for timber, and \$17.50@20 for flooring.

San Francisco Retail Market Rates.

| THURSDAY NOON, November 23, 1871. | | | |
|-----------------------------------|------|-------|--|
| MISCELLANEOUS. | | | |
| Butter, Cal. fir. lb. | 65 | @ 75 | |
| Pickled, Cal. lb. | 45 | @ 50 | |
| do Oregon, lb. | 45 | @ 50 | |
| Honey, 1 lb..... | 25 | @ 30 | |
| Cheese, 1 lb..... | 20 | @ 25 | |
| Eggs, per doz..... | 15 | @ 20 | |
| Lard, 1 lb..... | 18 | @ 20 | |
| Sugar, cr. 6½ lb 1 00 | | @ 13 | |
| Brown, do 1 lb 10 | | @ 13 | |
| Beet, do..... | 1 00 | @ 30 | |
| Sugar, Map. lb. | 15 | @ 30 | |
| Plums, dried, lb. | 15 | @ 30 | |
| Peaches, dried, lb. | 15 | @ 30 | |
| Wool Sacks, new | | @ 12½ | |

| PRODUCE, ETC. | | | |
|------------------------|------|--|--|
| Flour, ex. 1 bbl. 8 00 | @ 25 | | |
| Superfine, do 6 00 | @ 70 | | |
| Corn Meal, 100 lb 3 00 | @ 50 | | |
| Wheat, 100 lbs 2 75 | @ 30 | | |
| Oats, 100 lbs 1 75 | @ 20 | | |
| Barley, cwt. 1 85 | @ 20 | | |

| FRUITS, VEGETABLES, ETC. | | | |
|----------------------------|-------|--------|--|
| Pine Apples, 1 doz..... | 5 00 | @ 9 00 | |
| Bananas, 1 doz..... | 3 00 | @ 5 00 | |
| Cal. Walnuts, lb..... | 20 | @ 20 | |
| Cranberries, 1 lb..... | 75 | @ 100 | |
| Cranberries, 1 lb..... | 75 | @ 100 | |
| Pears, table, 1 box..... | 15 | @ 25 | |
| Plums, Cherry, 1 lb..... | 6 | @ 8 | |
| Strawberries, lb..... | 37½ | @ 50 | |
| Oranges, 100..... | 30 00 | @ 70 | |
| Lemons, per 100..... | 5 00 | @ 70 | |
| Figs, dried, 1 lb..... | 1 50 | @ 20 | |
| Asparagus, wh. 1 lb..... | 50 | @ 50 | |
| Apricots, lb..... | 6 | @ 10 | |
| Artichokes, doz..... | 10 | @ 75 | |
| Butter's sprits, 1 lb..... | 10 | @ 10 | |
| Beets, 1 doz..... | 2 | @ 2 | |
| Potatoes, 1 lb..... | 2 | @ 3 | |
| Potatoes, sweet, 1 lb..... | 4 | @ 5 | |
| Broccoli, 1 doz..... | 1 50 | @ 2 00 | |
| Cauliflower, 1 lb..... | 1 00 | @ 1 50 | |
| Cabbage, 1 doz..... | 10 | @ 25 | |
| Carrots, 1 doz..... | 10 | @ 25 | |
| Celery, 1 doz..... | 75 | @ 100 | |
| Cress, 1 doz hnn 20 | @ 25 | | |
| Dried Herbs, b'h 25 | @ 50 | | |
| Egg Plant..... | 12½ | @ — | |

| POULTRY, GAME. | | | |
|----------------------|--------|--------|--|
| Chickens, space 50 | @ 75 | | |
| Turkeys, 1 lb..... | 75 | @ 25 | |
| Ducks, wild, p p 50 | @ 100 | | |
| Tame, do..... | 1 50 | @ 75 | |
| Teal, 1 doz..... | 3 00 | @ — | |
| Geese, wild, pair 75 | @ 100 | | |
| Tame, pair..... | 2 50 | @ 3 00 | |
| From Chicago..... | — | @ — | |
| Hens, each..... | 75 | @ 100 | |
| Snipe, 1 doz..... | 1 50 | @ 2 00 | |
| English, do..... | 2 50 | @ 3 00 | |
| Venison, 1 lb..... | 12½ | @ 15 | |
| Quail, 1 doz..... | 2 25 | @ 2 50 | |
| Pigeons, dom. doz 10 | @ 3 50 | | |
| Wild, do..... | 1 50 | @ 2 00 | |
| Hares, each..... | 40 | @ 50 | |
| Rabbits, tame..... | 50 | @ 100 | |
| Wild, do..... | 15 | @ 20 | |
| Squirrel, pair..... | 25 | @ 30 | |
| Beef, tend, lb..... | 20 | @ 25 | |
| Sirloin and rib 18 | @ 20 | | |
| Corned, 1 lb..... | 10 | @ 12 | |
| Smoked, 1 lb..... | 15 | @ 18 | |
| Pork, rib, etc..... | 12½ | @ 15 | |
| Chops, do..... | 12 | @ 15 | |
| Veal, 1 lb..... | 15 | @ 20 | |
| Cutlet, do..... | 12½ | @ 15 | |
| Mutton chops..... | 12½ | @ 15 | |
| Leg, 1 lb..... | 12½ | @ 15 | |
| Lamb, 1 lb..... | 18 | @ 20 | |
| Tongues, beef, ea 15 | @ 75 | | |
| Tongues, pig, ea 15 | @ 75 | | |

| FISH, MEATS, ETC. | | | |
|-------------------------|------|--------|--|
| Bacon, Cal. 1 lb..... | 18 | @ 20 | |
| Oregon, do..... | 18 | @ 20 | |
| Hams, Cal. 1 lb..... | 18 | @ 20 | |
| Hams, Cross s c..... | 25 | @ 25 | |
| Choice D field..... | 25 | @ 25 | |
| Whittaker's..... | 25 | @ 25 | |
| Johnson's Or..... | 25 | @ 25 | |
| Salsbury, 1 lb..... | 30 | @ 30 | |
| Smoked, new..... | 10 | @ 12 | |
| Pickled, 1 lb..... | 6 | @ 8 | |
| Rock Cod, 1 lb..... | 10 | @ 12 | |
| Perch, s water, lb..... | 8 | @ 10 | |
| Fresh water, lb..... | 12½ | @ 15 | |
| Lake Big Trout..... | 37½ | @ 50 | |
| Smelts, 1 lb..... | 10 | @ 12½ | |
| Herring, fresh..... | 5 | @ — | |
| Sm kd, per 100..... | 25 | @ 100 | |
| Turned, 1 lb..... | 25 | @ 28 | |
| Terrapin, 1 doz..... | 4 00 | @ 5 00 | |
| Mackerel, p k, ea..... | 25 | @ 30 | |
| Fresh, do..... | 25 | @ 30 | |
| Sea Bass, 1 lb..... | 25 | @ 30 | |
| Halibut, 1 lb..... | 50 | @ 60 | |
| Sturgeon, 1 lb..... | 37 | @ 50 | |
| Oysters, 100..... | 1 00 | @ 1 25 | |
| Chesp, 1 doz..... | 61 | @ 60 | |
| Turbot..... | 50 | @ 62 | |
| Crabs 1 doz..... | 1 00 | @ 1 00 | |
| Soft Shell..... | 37 | @ 50 | |
| Shrimps..... | 10 | @ 12 | |
| Prawns..... | 25 | @ 50 | |

| POULTRY, GAME. | | | |
|----------------------|--------|--------|--|
| Chickens, space 50 | @ 75 | | |
| Turkeys, 1 lb..... | 75 | @ 25 | |
| Ducks, wild, p p 50 | @ 100 | | |
| Tame, do..... | 1 50 | @ 75 | |
| Teal, 1 doz..... | 3 00 | @ — | |
| Geese, wild, pair 75 | @ 100 | | |
| Tame, pair..... | 2 50 | @ 3 00 | |
| From Chicago..... | — | @ — | |
| Hens, each..... | 75 | @ 100 | |
| Snipe, 1 doz..... | 1 50 | @ 2 00 | |
| English, do..... | 2 50 | @ 3 00 | |
| Venison, 1 lb..... | 12½ | @ 15 | |
| Quail, 1 doz..... | 2 25 | @ 2 50 | |
| Pigeons, dom. doz 10 | @ 3 50 | | |
| Wild, do..... | 1 50 | @ 2 00 | |
| Hares, each..... | 40 | @ 50 | |
| Rabbits, tame..... | 50 | @ 100 | |
| Wild, do..... | 15 | @ 20 | |
| Squirrel, pair..... | 25 | @ 30 | |
| Beef, tend, lb..... | 20 | @ 25 | |
| Sirloin and rib 18 | @ 20 | | |
| Corned, 1 lb..... | 10 | @ 12 | |
| Smoked, 1 lb..... | 15 | @ 18 | |
| Pork, rib, etc..... | 12½ | @ 15 | |
| Chops, do..... | 12 | @ 15 | |
| Veal, 1 lb..... | 15 | @ 20 | |
| Cutlet, do..... | 12½ | @ 15 | |
| Mutton chops..... | 12½ | @ 15 | |
| Leg, 1 lb..... | 12½ | @ 15 | |
| Lamb, 1 lb..... | 18 | @ 20 | |
| Tongues, beef, ea 15 | @ 75 | | |
| Tongues, pig, ea 15 | @ 75 | | |

| | | | |
|----------------------|--------|-----------------------|--------|
| Wild, do, 30 | @ 20 | Smelts, p, lb..... 10 | @ 12½ |
| Hares, each ... 40 | @ 50 | Herring, fresh... 5 | |
| Rabbits, tame... 50 | @ 1 00 | Sm'kd, per 100 | @ 1 00 |
| Wild, do, p dz 1 75 | @ 2 00 | Tomcod, p, lb.... 25 | @ 38 |
| Squirrel, p pair. 25 | @ 38 | Terrapin, p doz 4 00 | @ 5 00 |
| Beef, tend, p lb. 20 | @ 25 | Mackerel, p k, ea | |

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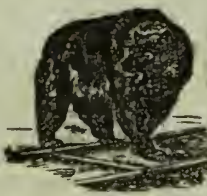
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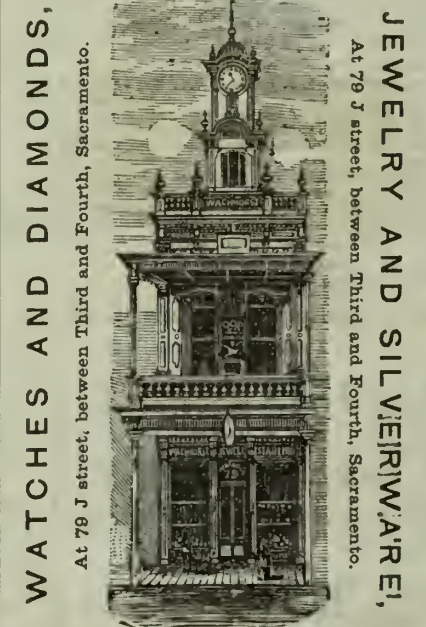
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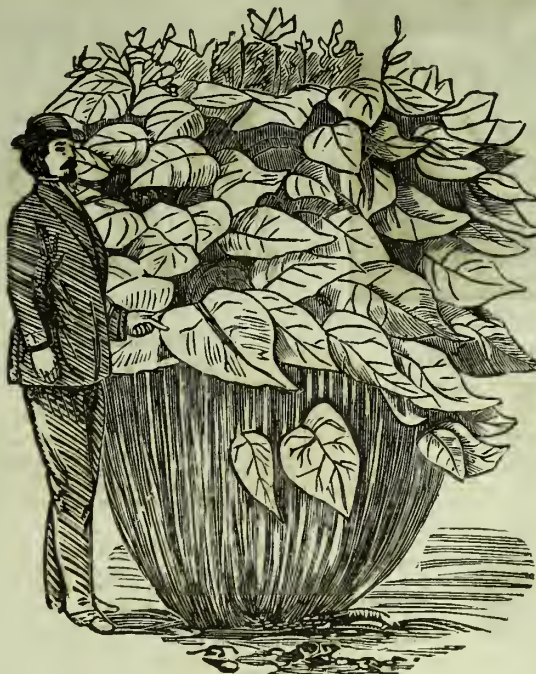
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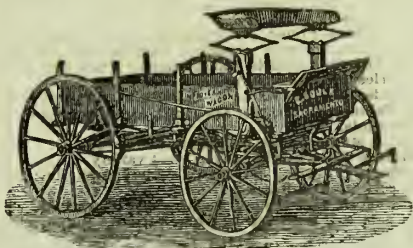
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SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address **STORRS, HARRISON & CO.** 1v2-6m Painesville, Lake Co., Ohio.

H. K. CUMMINGS.
1858.

J. M. MAXWELL
1871.

HENRY K. CUMMINGS & CO.,

Wholesale Fruit and Produce Commission House,

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with those of the producer. 4v23-1y

SEED WHEAT.

THE CELEBRATED EXCELSIOR SEED WHEAT CLUB CHILE, AUSTRALIA & SONORA WHEAT, FOR SEED.

For sale in lots to suit by **McNEAR & BRO.,** 15v2-3m 302 Davis street, San Francisco

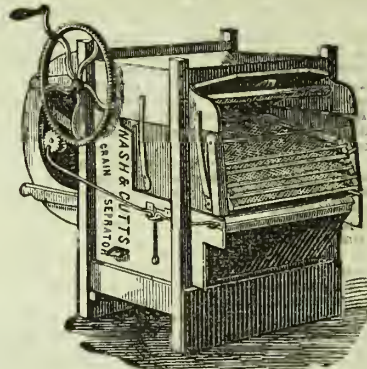
Shell Your Corn.

The **LITTLE GIANT** shells four bushels of corn per hour, and costs only two dollars. If you ever buy one, and it fails to give perfect satisfaction, you can get your money back by returning the Sheller. We would recommend lazy men and women not to buy it, for it is an enemy to both. Local or traveling agents will be supplied with Shellers at low prices, and given sole agencies to sell in their town or county.

WIESTER & CO.,

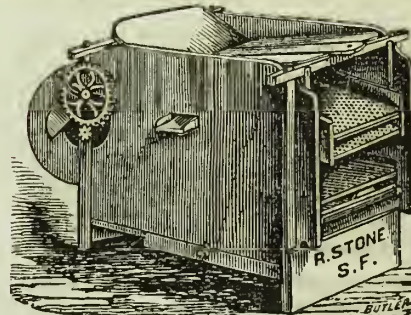
17 New Montgomery street, San Francisco.

NASH & CUTTS' FANNING MILL AND GRAIN SEPARATOR.



FIRST PREMIUM at the California State Fair of 1870 over all other Mills in the State, after a Thorough Practical Trial by the Committee of Fanners, with ALL KINDS OF GRAIN. It is the Cheapest and Best Mill in use, and the only one that will completely separate Barley, Oats, Smut, Chaff, and all kinds of Grass and Weed Seed, from Wheat, and at the same time separate perfectly the different qualities of Wheat. Also separates Oats and all foul seed from Barley, or Barley and Wheat from Oats. It will clean Beans, Peas, Corn, and all kinds of grain, perfectly, and more rapidly than any other Mill ever built. For sale by **NASH, MILLER & CO.,** at Manufactory, corner K and Tenth streets, Sacramento, Cal. 26v1-3m

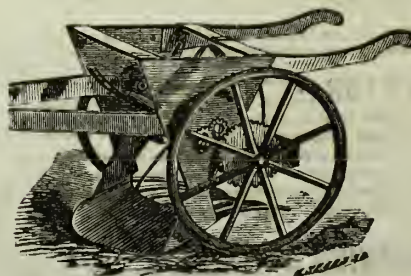
THE PATENT Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far exceeds anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to **R. STONE,** 25v1-3m 422 Battery street, San Francisco.

WESTFALL'S Improved Potato Digger.



We ask special attention to this entirely practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model can be seen at our office. Full particulars in regard to Machines or Rights furnished on application.

WIESTER & CO., 17 New Montgomery street, S. F.



It is one of the Largest, best Illustrated and most Original and Enterprising Agricultural Journals in America, and has no rival on the western side of the Continent. Its circulation is rapidly increasing, and it is Very Popular with its Patrons.

A NEW HUSBANDRY.

as it were, is required on the Pacific Coast, on account of its peculiar seasons, soil, climate and topography. The new discoveries, ideas, and useful hints evolved in its rapid progress, are to be observed with interest, and read, as reported in the *PACIFIC RURAL*, with profit by practical and progressive agriculturists everywhere. Sample copies of the Press, post paid, 10 cts. Subscription, \$4 a year.

DEWEY & CO., Publishers,

No. 333 Montgomery St., San Francisco, Cal. Nov., 1871

Hints about Advertising.

Be Careful of your Seed! Sow It in Good Ground!

If you have goods to sell farmers, how much better will it pay you to advertise in a farming paper, read and preserved by 15,000 intelligent farmers, than in miscellaneous daily or weekly journals with 30,000 readers, comprising only 2,000 farmers. A mining journal in California with 15,000 readers reaches more intelligent miners than any other ten papers in the Union.

Purchasers are more likely to look for information in the advertising columns of a paper devoted to their special interests, than elsewhere, when ready to buy. Some will not read advertisements upon any other occasion, but seek the best paper when wanted.

If you happen to be the only advertiser in your line of business in a paper, all the better. But if several firms advertise the same, your own judgment will question whether you can best afford to go unrepresented.

Weekly journals are read most leisurely and carefully, and at a time when the subscriber is most favorably inclined to examine advertisements. The newspaper most specially representing your particular branch of industry is usually best entitled to your patronage, and the most profitable medium you can employ.

An advertisement in an honest and handsome sheet is favorable to the reputation of the advertiser. The readers of the Press are a superior and industrious class, who are able to purchase and who seek to patronize the best and fairest dealing tradesmen.

Advertising in cheap priced mediums (of limited circulation) is like buying goods at retail when you could as well take them at wholesale.

Information imparted to a list of superior and intelligent and active and industrious readers (naturally looked up to by others for information), is seed sown in good soil for the advertiser.

Fame and fortune are gained, nine times in ten, by liberal and judicious advertising.

A Remarkable Success.

Started January 1, 1871, with a list of 1100 subscribers for the Farming edition of the *Scientific Press*, the *PACIFIC RURAL PRESS* has proved one of the greatest successes known in journalism on the Pacific Coast. It is now thoroughly and permanently established by editors and publishers who have had over fifteen years favorable experience in their profession in California. We have been very active, with agents, all over the western half of the U. S., who have met with universal encouragement. The great need of such a publication in so vast and novel a field is one of the strong reasons of its speedy advancement. Following are some opinions of the press:

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*Encinal*.

They can, if they will, make it a creditable work. [We will that.] It opens well. Excellent paper and type—and a first-class agricultural journal. Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—*Vallejo Recorder*.

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—*Democrat, Downville*.

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—*Albion Chronicle*.

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—*Christian Advocate, S. F.*

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—*Helena, (M. T.) Gaz.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—*Idaho Statesman*.

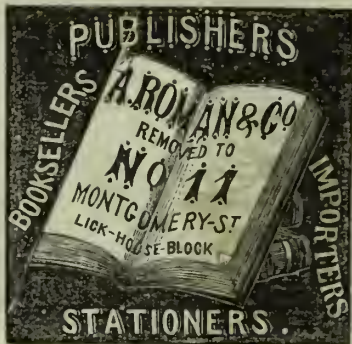
HINTS FOR

We will send on receipt of stamp for postage, FREE, our 48 page Circular, containing 112 Illustrated Mechanical Movements; a digest of PATENT LAWS; information how to obtain patents, and about the rights and privileges of inventors and patentees; list of Government fees, practical hints, etc., etc. Address DEWEY & CO., Publishers and Patent Agents, San Francisco.

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DESIGNING AND ENGRAVING on wood and for electrotype cuts of every description, done by superior artists at the office of the SCIENTIFIC PRESS. Fine Cuts made for Book and Newspaper Illustrations, and for Fancy Labels for printing in various colors; Monograms, Seals, etc., etc. Prompt execution and reasonable prices.

THE SCIENTIFIC PRESS, devoted to Mining, Mechanic Arts, Inventions, Etc., published by DEWEY & CO., was established in 1860, and is now known as one of the most substantial and reliable industrial publications in America. \$4 per annum. Single copies 10 cts.



New Gas Light.

GAS LAMPS

of

EVERY

DESCRIPTION,

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Latest

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BURNERS.

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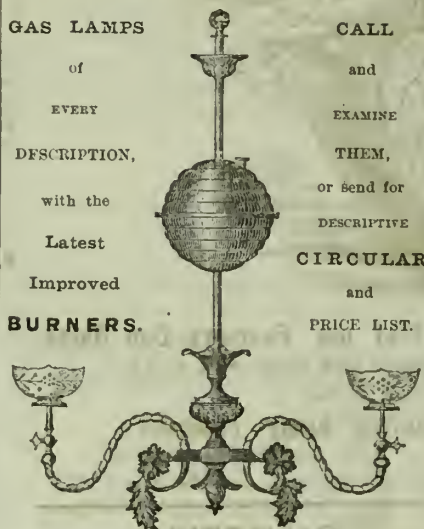
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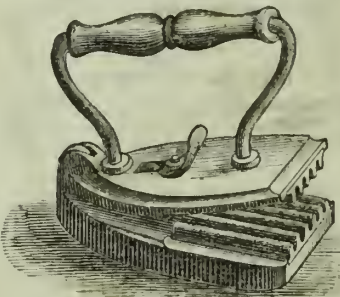
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PRICE LIST.



WIESTER & CO., 17 New Montgomery street, (Grand Hotel), San Francisco. no25-sa

READ THIS.



A POLISHING AND FLUTING IRON that should be in every house in California. It flutes collars, cuffs and ruffles of every description, without injury to the finest fabrics. As a Polishing Iron it cannot be excelled, being made of the best material and highly polished. The fluting of the Iron is made of finely polished brass, which adds much to the beauty as well as the utility of the article. We want a few good agents and will be pleased to receive communications from persons who mean business. WIESTER & CO., 17 New Montgomery st. (Grand Hotel), S. F.

Longshore's Combination Tool.



This device is just what its name indicates. As a Kitchen Tool it is indispensable. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

WIESTER & CO.,

17 New Montgomery street (Grand Hotel), SAN FRANCISCO.

Dental Patent.

THE MOST

VALUABLE

IMPROVEMENT

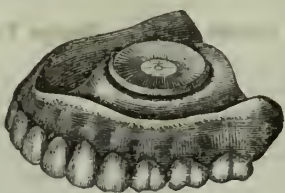
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Dental Plates

That has been

Made for Years.

WIESTER & CO., 17 New Montgomery st., S. F.



SAN JOSE REAL ESTATE FOR SALE.

Farms from \$12 to \$100 per acre. Garden Land from \$100 to \$300 per acre. City Lots in San Jose or Santa Clara on easy terms. Well Improved Suburban Homesteads and Desirable City Property for sale by

J. A. CLAYTON, Real Estate Agent. Office on Santa Clara street, opposite Auershaus House. Rents collected, Tax paid, and Money invested on first-class security. 20v2-3m

Farmers, write for your paper.

KELSEY'S NURSERIES.



OAKLAND.

Established in 1852.

CITY DEPOT.

317 Washington Street.....SAN FRANCISCO.

The Proprietor having upwards of 100 ACRES OF NURSERY GROUNDS, well stocked with all the leading and best varieties of Fruit Trees and Fruit Bushes; also Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms and with dispatch.

Choice Roses and Pot Plants of every variety. Trees and Plants securely packed to travel any distance.

FOREST TREES

of Australia, Europe, China and Japan; in fact, we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty, in furnishing a place without being obliged to go from one Nursery to another.

W. F. KELSEY, Proprietor. 21v2-3m

TREES AND PLANTS FOR SALE AT THE Liberty Nurseries, - - Petaluma.

The stock I offer for sale this season is as varied and complete as can be found at any Nursery on the Pacific Coast. It consists of

Apples, Pears, Plums, Peaches, Apricots, Nectarines, Figs, Quinces, Cherries, Oranges, Pomegranates, Mulberries, Grapes, Currants, Gooseberries, Blackberries, Raspberries, Strawberries, etc.

Almonds, English Walnuts, California and Eastern Black Walnuts, Butternuts, American, Japan and Spanish Chestnuts.

Locusts, Maples, Elms, Poplars and Willows. Evergreen Trees and Shrubs in great variety. Peculiar Flowering Shrubs in variety, including a choice collection of Roses.

Also a choice collection of Bedding and Conservatory Plants, selected from the best new varieties (importation of 1871).

For complete list send for Descriptive Catalogue. The above stock of Trees and Plants will be sold

At the Lowest Market Rates

of the reliable Nurserymen, and guaranteed to be true to name and label.

All orders from unknown persons must be accompanied with the Cash.

TREES packed in the best manner and delivered to Railroad or Boats in Petaluma for shipment to all parts.

Address 21v2-3m

W. H. PEPPER, Petaluma, Cal.

J. ROCK'S NURSERIES,

SAN JOSE.

Fruit and Ornamental Trees.



The attention of every Planter, Nurseryman and Dealer is called to our large and superior stock of



Fruit and Ornamental Trees,

Grape Vines and Small Fruits,

Shrubs and Plants, Etc., Etc.,

IN LARGE QUANTITIES, AT LOWEST RATES.

Catalogue furnished on application.

21v2-tf

JOHN ROCK, San Jose, Cal.

Ramie Roots for Sale,

IN LOTS TO SUIT.

For Circular containing particulars and all information apply to or address

JOHN S. DRURY,

At C. F. RICHARDS & Co.'s Drug Store, S. W. corner of Clay and Sansome streets, San Francisco. 21v2-3m

A Novelty Printing Press for Sale.

It is a new foot-power Press, and just the thing for a small country job office or for amateur printers, and druggists and others who wish to do their own printing. At manufacturers' price, with freight added. Enquire at this office. 11v2tr-lams

GEO. F. SILVESTER,

SEEDSMAN,

Importer and Dealer in all kinds of

Vegetable, Flower, Field, Fruit and Tree Seeds,

GARDEN TOOLS, PLANTS, TREES,

California Tree and Flower Seeds, Etc.

No. 317 Washington Street,

Between Batter and Front.....SAN FRANCISCO.

6v2-1y4p

GEO. B. BAYLEY,

Corner Sixteenth and Castro Streets, OAKLAND.



Importer and Breeder of CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale. Address, with stamp, P. O. Box 659, San Francisco.

THE GREAT RETAIL DRUG HOUSE OF THE PACIFIC COAST!

JAMES G. STEELE & CO.,

Chemists and Apothecaries.

Import and sell directly from Eastern and European Markets.

NO. 521 MONTGOMERY STREET,

San Francisco.

Manufacturers and Sole Proprietors of

STEELE'S GLYCERINE LOTION

—AND—

GRINDELLA LOTION,

For the Cure of Poison Oak. 21v2-3m

LUBRICATING OIL,

THE BEST IN THE WORLD!

The attention of the public is called to GRUBER'S NEW PATENT LUBRICATING OIL.

For running Machinery of all kinds it has no equal. It will not gum, and runs perfectly smooth, cool and clean.

This OIL offers special inducements to Farmers, Livery Stable Keepers, etc.

It will be found far Superior

To any other Oil or Grease now in use for Carriages, Wagons, and all kinds of Farming Machinery.

Mill-men, Printers, and all others having occasion to use a Lubricator, will find a decided advantage in using this Oil—one gallon being equal to two of the best Oil in the market.

Perfect Satisfaction Guaranteed

OR MONEY REFUNDED.

Orders per Mail or Express will receive prompt attention.

Office and Salesroom—GRUBER LUBRICATING OIL CO., Corner Drumm and Market streets,.....SAN FRANCISCO. no25-3m-bp-sa

DANA BICKFORD'S

NEW IMPROVED FAMILY

KNITTING MACHINE,

\$1,000 TO \$5,000 A YEAR, AGENTS any section of the country, selling Dana Bickford's new and improved FAMILY KNITTER. This Machine is guaranteed (in its present completeness) to meet every want of the household for either domestic or fancy work. Price \$25. Send for circular and illustrated book. Address DANA BICKFORD, Vice-President and General Agent, 689 Broadway, N. Y.



Volume II.]

SAN FRANCISCO, SATURDAY, DECEMBER 2, 1871.

[Number 22.]

Montana Vegetables.

Our readers have, no doubt, heard of the excellence and wonderful size of the vegetables raised in Montana Territory, although few, perhaps, have ever had an opportunity to see any of them. At all events we have taken this for granted, and have been to some trouble and expense in preparing the accompanying engraving which was cut from a photograph procured for us by our traveling correspondent, Mr. W. H. Murray, during his recent visit to Montana, where he visited the Territorial Fair where these vegetables were on exhibition. The second annual Fair commenced on September 25 and continued one week. The weather was fine and pleasant, very favorable for the exhibition. The grounds of the Association embrace 83 acres of fine grass land, beautifully located on Ten Mile Creek, about two miles from Helena. The buildings, especially the Floral Hall and officers' quarters, reflect much credit upon the managers. The mile track was in fine order, and every day, during the Fair races were run by the best horses in the Territory. The opening address was delivered by the Rev. L. B. Wolfolk. Over \$6,000 worth of premiums were awarded. The display of cattle and horses was excellent, and in fact, fine stock was one of the leading features of the exhibition. The Agricultural Department was well represented, however, from all parts of the Territory, the vegetable display being unusually good.

The farmers who contributed the vegetables, shown in our engraving, are E. H. Train, of Helena; J. H. Forbes, of Seven Mile; Bass & Bro., of Pine Grove Farm, Bitter Root Valley; John Troburn, of Helena; T. M. Stewart and W. R. Mulligan,

of Prickly Pear; D. W. Curtis, of Helena; and Lea F. Marston, of Virginia. The photograph was taken by E. H. Train, one of the best photographers in the Territory.

In the background is to be seen a fine bunch of celery. The onions observed on the string, are of various sizes, the largest being five inches in diameter. The onions on the ground in front of the cabbage are from six to six and a half inches in diameter. To the left may be seen what is known as the vegetable oyster. Rhubarb

Train of Helena, and weigh 10 pounds each. The cabbage measured four feet in circumference. The turnips were raised by J. M. Stewart and weigh 26 pounds. The potatoes were exhibited by N. Merri-man of Jefferson City, and are known as the Early Rose variety. They averaged from 1½ to 3 pounds each and were from 10 to 12 inches in length. The watermelon was 2½ feet long and 18 inches in diameter. It came from the farm of Bass & Bro. The rutabaga turnips were also of large size.

Montana is one of the most remote from San Francisco and New York, of all the Territories; but a visit to the late State Fair would have convinced any one that it will yet be one of the leading States, on account of its agricultural and mineral productions. Farming in Montana has as yet been little more than an experiment, and the long winters and summer frosts have deterred many from trying it; still, those that have turned their attention this way, have succeeded, beyond their expectations,

in raising heavy yields of every variety of crops, but in most cases irrigation is a necessity. It has been estimated that there are 92,000 acres of excellent arable land in the valleys capable of being cultivated, of which 10,000 acres have been taken up within the past twelve months, and 20,000 are under cultivation and fenced. The Territory has few manufactures as yet, still it may be said to be almost self sustaining. All the cereals and vegetables grow to an unusually large size, and in this respect, Montana excels. As a stock-raising country, the luxurious growth of grass in the valleys and cañons proves that it is admirably adapted, but it is advisable to keep a sup-



MONTANA PRODUCTIONS.

lies on the cauliflower. Turnips of very large size will be noticed on the squash and near the melons. Beets weighing from 8 to 10 pounds each can be seen near the melons, and tomatoes lie on the ground beside the onions. A large Chinese cucumber six feet long and 9½ inches in circumference is on the ground in front of all. Nutmeg melons will also be seen. The squash was raised by Bass & Bro., and is the largest ever raised in Montana, being five feet five inches in circumference and weighing 85 pounds.

The two large cauliflowers in the middle of the illustration were raised by E. H.

Stalks of rye and a specimen of seven-headed wheat will also be observed, raised by W. T. Mulligan. The corn was raised by Bass & Bro., and some of the Trophy tomatoes, seen upon the ground, by J. V. Stafford; the others by D. W. Curtis. The parsnips and cucumbers shown were very large and of excellent quality as was also the celery, which was raised by Capt. Cadage. Our correspondent informs us that he saw a cabbage raised by Mr. Marston which excelled the one shown in our engraving; it measured 62½ inches in circumference and weighed 38 pounds, but Mr. M. did not place it on exhibition.

ply of feed on hand, in case of a severe winter. The climate is rather cold for the more tender fruits, but it is thought that apples, plums and cherries can be raised in certain localities successfully. The farmers are now experimenting on different species of fruits, with a view of seeing which can be raised most successfully.

CAN'T DO WITHOUT IT.—"J. F. J.," a Chico subscriber, sends us his annual subscription and adds:—"I could get along without sugar in my tea and coffee, but could not think of getting along without the PACIFIC RURAL PRESS."

MECHANICAL PROGRESS.

Engraving and Drilling by the Sand Blast.

The curious discovery of B. F. Tilghman, of Philadelphia, of the practicability of engraving on glass, and drilling the hardest substance by a simple blast of sand is exciting much interest both in this country and Europe. Very little force is required to produce the desired effect, to what one would naturally suppose would be required.

For merely abrading the surface of polished glass, or making "ground glass," a blast of air is used under a pressure of only four inches of water. The air is forced into a perpendicular tube about two feet below where the sand enters, and is thus carried with the blast against the sheets of glass, which are slowly moved across and about one inch below the lower end of the tube. About 15 seconds exposure of any given surface is sufficient to grind or thoroughly depolish the surface of ordinary glass. The sheets are carried along on endless belts, at the rate of 5 inches forward movement per minute.

By covering parts of the glass surface by a stencil or pattern of any tough or elastic material, such as paper, lace, caoutchouc, or oil-paint, designs of any kind may be engraved. There is a kind of colored glass made by having a thin stratum of colored glass melted or "flashed" on one side of an ordinary sheet of clear glass. If a stencil of sufficient toughness is placed on the colored side, and exposed to the sand-blast, the pattern can be cut through the colored stratum in from four to twenty minutes, according to its thickness.

The theoretical velocity of a current of air of the pressure of 4 in. of water, is about 135 feet per second; the actual velocity of the sand is much less. If a current of air of less velocity is used, say about one inch of water, very delicate materials, such as the green leaves of the fern, will resist a stream of fine sand long enough to allow their outlines to be engraved on glass. By graduating the time of exposure with sufficient nicety, so as to allow the thin parts of the leaves to be partly cut through by the sand while the thicker central ribs and their branches still resist, the effect of a shaded engraving may be produced.

For cutting stone, the inventor uses steam as the impelling jet; the higher the pressure, the greater is the velocity imparted to the sand, and the more rapid its cutting effect. In using steam of about 100 pounds pressure, the sand is introduced by a central iron tube, of about 3-16-in. bore, while the steam is made to issue from an annular passage surrounding the sand-tube. A certain amount of suction of air is thus produced, which draws the sand through the sand-tube into the steam jet, and both are then driven together through a tube about 6 in. long, in which the steam imparts its velocity to the sand, and finally strike on the stone, which is held about an inch distant from the end of the tube.

Under favorable conditions, using steam which he estimated as equal to about 1½ horse-power, at a pressure of about 125 pounds, the cutting effect per minute was about 1½ cubic inches of granite, or three cubic inches of marble, or 10 cubic inches of soft brown sandstone. With a steam jet of 300 pounds pressure, a hole 1½ in. in diameter was cut through a piece of corundum, 1½ in. thick, in 25 minutes. A hole 1 in. long and ¼ in. wide, was cut through a hard steel file a ¼ in. thick in 10 minutes with a jet of 100 pounds steam. The lightness of impact required to produce a drilling effect, even on a very hard surface was shown at the late exhibition of the American Institute in New York by a stream of small lead shot, driven by 50 pounds of steam, which wore a small hole in a piece of hard quartz. The shot was found to be only very slightly flattened by the blow, showing their velocity to have been moderate.

Among the curious examples of glass cut by this sand-blast was shown a piece of ordinary window glass, which, having been partially protected by a covering of wire gauze, had been cut entirely through, thus producing a glass sieve, with openings of about 1-12 of an inch, the intervening glass meshes being only 1-16 of an inch wide. This seems to have been produced more as a curiosity than for any practical purpose.

FINISHING STEEL.—Of all the methods or processes of working and finishing of steel, probably there is none extensively used about which there is so little known by mechanics in general as that of the "friction wheel," and this lack of knowledge has no doubt kept its use confined within the bounds of almost a single class of work. It is generally known that the smooth edge of a soft steel or iron wheel, when run at a high speed, will cut tempered steel, soft steel, iron, and other substances very rapidly, but with it goes the belief that steel so cut is practically ruined for all useful purposes. This is true only to a certain extent, and is entirely avoidable by a proper speed of the friction-wheel and a skillful operator. A smooth steel wheel running with a periphery speed of from two to three miles per minute, will cut steel at a rapid rate, and without heating it to such an extent as to even change the color, the cutting wheel, too, retaining its form for a great length of time without being returned. Not only the spiral sides of augers and auger-bits are smoothed out and finished by friction-wheels, but the fine screw points of the same are wholly formed by the sharp edge of a soft steel plate run at the frightful speed of 14,000 revolutions a minute. The freedom from heating or burning the work, as well as the accuracy and beauty with which it is done, is unquestionably in a great measure due to the skill of the operator; still this skill may be matched by the skill of the inventors, and the friction wheel applied to hundreds of purposes yet unthought of.—*American Artizan.*

A NEW BRONZE.—We learn from a recent copy of the *Polytechnisches Journal*, that some investigators have succeeded in producing a new alloy which possesses peculiar advantages over others, for a number of processes in the arts. The peculiarity of the new compounds consists in the fact that it contains phosphorus as an ingredient. The authors have not divulged the details of the plan by which they succeeded in introducing this substance into combination. It is used with copper, or with copper and tin, either with or without the addition of zinc. The alloy produced is said to be peculiarly adapted for the construction of certain portions of machinery, as also for gun barrels.

It seems, from an editorial note from Dr. Dinger, that the attempt to introduce phosphorus into the composition of several common alloys had been repeatedly made, but without success. The well-marked influence which its presence, in even trifling quantity, exerts upon the physical properties of irons, would seem to be the ground upon which the repeated efforts to utilize its presumable influence on other metals, is based; and there can be very little doubt but that the subject is worthy of the most careful attention of workers in metal.

DIES FOR THREAD-CUTTING.—The foreman of a large establishment in Philadelphia for making wrought iron gas-pipe, says that the dies for threading the ends of the pipe should be made with more material than is absolutely necessary on the score of strength, in order that the surplus metal may aid in conducting away the heat. He says that in cutting the maximum number of ends without sharpening the dies, with a solid die made of the least possible amount of metal consistent with strength, as compared with one made of, say, four times the amount of metal, the large die will cut four or five thousand ends, while the small one will be dull after cutting fifteen hundred. The cutting edges are the same in both cases.—*Journal Franklin Institute.*

THE NEW YORK DOCKS.—It is stated that the work upon the rebuilding of the docks of that city is in progress. The plan, if carried out in accordance with announcement, will secure to the city a wharf-line of thirty-seven miles, and a pier area of more than five million square feet. It is designed to build a river-wall of solid masonry along the North and East Rivers, from which, at regular distances, piers, none less than sixty and many one hundred feet in width, are to be built at right-angles.

NEW MODE OF ORNAMENTS METAL.—A new process of ornamenting metallic surfaces by electro-depositions from solutions consists in producing a deposit or plating of metal upon the surface of another metal, by painting the latter with a salt or solution of a salt of the metal to be deposited by means of a pencil, which is in metallic connection with a galvanic battery, the other pole of which is in metallic connection with the metal to be operated upon.

SCIENTIFIC PROGRESS.

Artificial Formation of Organic Bodies.

The first instance of the artificial formation of an organic substance from inorganic matter, was announced by Wohler, in 1828. He produced urea from cyanite of ammonia. By many this discovery was hailed as a consummation of the dreams of the alchemists, and wonderful things were expected. And, indeed, wonderful discoveries have since been made in this direction; but still the researches are comparatively slow of results. The second discovery of the kind was made in 1831, by Pelouze, who produced formic acid artificially.

From that time 15 years elapsed before another similar announcement was made, when in 1846, Melsens produced marsh gas. The next year acetic acid was discovered by three different persons—Dumas, Malagati and LeBlanc. It was ten years till Bertagnini and Harnitzky, each separately produced cinnamic acid.

From this time on, during the next decade, every year witnessed the discovery of some one or more artificial productions of organic compounds from inorganic substances—the order of discovery and names of which were as follows:—Glycols, malic and tartaric acid, sugar, alcohol, amylene, amine, lactic acid, diatomic, leucic, malonic, carballylic acids, isomer of rutylic alcohol, a fatty and aromatic series of acids, toluene, aceconitic, butyric, caporic, tartaric, tolnic, oxalic, and malonic acids.

This brings us down to 1867, when Wurtz announced the discovery of ricine, since which we have had picolin, the oil of rue, and alizarine. Several other discoveries have been made, but the facts with regard thereto are either uncertain or unattainable by the *American Chemist*, from which we condense the above.

With our improved methods of research, it would be highly censurable to attempt, adds the *Chemist*, to fix a limit to the onward progress of the synthetical formation of organic compounds; indeed, we believe that the chemist will cross over and possess all the hidden fields of organic chemistry.

A NEW ZINC PAINT.—A new zinc paint of remarkable stability, and particularly adapted to coating metals, is prepared in Belgium, by mixing zinc white and soluble soda or potash glass. It adheres better to metallic zinc than any other preparation, and diminishes the absorption of heat so materially that attic rooms under a roof painted with it show ten degrees less temperature than the unprotected rooms. It bears all changes of temperature, cold, sun and rain, and what will give it great value is the fact that it will render fabrics, paper, wood and all tissues, entirely incombustible. Wood painted with it will resist flame for a long time, and, if the pores could be filled with it, there would be no danger of its bursting into flame. The same materials mixed in different proportions could be cast into molds and used very much as plaster now is. If the zinc were not too expensive, an artificial stone could be made by combining the silicate of soda with the oxide.

SUBMARINE ILLUMINATION.—Prof. Pepper has recently made some highly interesting experiments at the London (Eng.) Polytechnic Institution in submarine illumination by means of the electric light as applied in a new and ingenious apparatus, the invention of Messrs. Heinke and Davis. In this apparatus the jet is contained in an air-tight lantern, and produces a perfect and well-radiated light under water. The importance of this invention as connected with all purposes to which the diving bell is applied, can hardly be over-rated, and the professor had no hesitation in expressing an opinion favorable to its efficiency.

COATING SHEET-IRON WITH ZINC.—One of the most recently proposed methods of zincing iron is by passing the iron sheets through a flux of sal-ammoniac, then through molten zinc, again through the same flux, then through smoothing-rolls, and finally impinging thereon a current of cold air as it rises from the bath.

NON-HOMOGENEITY OF SILVER AND COPPER ALLOY.—W. C. Roberts has shown apparently to the satisfaction of the British Mint Authorities, that the homogeneous nature of an alloy of silver and copper is destroyed by the cooling of the molten mass, the silver being concentrated in the centre.

New Glass Cement.

Professor Böttger prepares cement of divers colors and great hardness by mixing various bases with soluble glass. Soluble soda glass, thoroughly stirred and mixed with fine chalk, and the coloring matter well incorporated, sets in the course of six or eight hours as a hard cement; it is capable of a great variety of uses. Well-sifted sulphide of antimony gives a black mass, which, after solidifying, can be polished with agate, and then possesses a fine metallic luster. Fine iron dust gives a gray-black cement; zinc dust makes a gray mass, exceedingly hard, which, on being polished, has a brilliant metallic luster, so that broken or defective zinc castings can be mended and restored. Carbonate of copper gives a bright-green cement; sesquioxide of chromium gives a dark green; Thenard's blue, a blue; litharge, a yellow; cinnabar, a bright-red; carmine, a violet-red cement. The soluble glass with fine chalk alone gives a white cement of great beauty and hardness. Sulphide of antimony and iron dust, in equal proportions, stirred in with soluble glass, afford an exceedingly firm black cement; zinc dust and iron in equal proportions yield a hard, dark-gray cement; all adhere firmly to metal, stone, and wood. As soluble glass can be kept in liquid form and the chalk and coloring matters are cheap, the cements can be readily prepared when wanted, and the material kept in stock ready for use, at little expense. Soluble glass is fast becoming a most important article of chemical production.

SUBSTITUTE FOR GUN POWDER IN COAL MINES.—Mr. S. P. Bidder, of England, has recently introduced an ingenious device, which, aside from its practical utility, possesses an important value in the interests of humanity, in the fact that by its use gunpowder can be dispensed with in coal mining, and perhaps in some other underground workings where the material to be operated on may not be too unyielding.

The device consists of two separate parts, a drill for making a preparatory channel into the seam and a long arm which is carried down this channel.

The same individual has also produced a new form of miner's safety lamp, the novelty being in a lock with which the miner cannot tamper. It is fastened by a bar of iron which is nowhere accessible from the outside, but which is drawn down by the action of a powerful electro-magnet, to be kept in the colliery office for the purpose, and on which the lamp must be placed in order to open it.

AERONAUTIC COMPASS.—The efforts to keep up communications between Paris and the outer world during the recent siege led to the invention of several ingenious contrivances connected with ballooning, not the less interesting being Mr. Janssen's aeronautic compass, the object of which is to enable the aeronaut to ascertain at any moment both the speed and direction of the balloon. It consists of a graduated glass disc with a hole in the centre; at a certain distance above the central hole is fixed a small eye-hole, and on one of the points of the circumference of the disc is fixed a small compass. The apparatus is suspended perpendicularly outside the car. It may be mentioned in this connection that, in a communication to the Academy of Sciences, M. de Fonville expressed the opinion, as the result of his experience, that no attempts at the direction of balloons will succeed except above the clouds.

THE ABSORBENT POWER OF RED PHOSPHORUS.—An interesting paper on the "Absorbent Power of Red Phosphorus" is contributed to the May number of the *Gazette Chimica Italiana* by Fausto Sestini, from the Laboratory of the Royal Technical Institute of Udine. The author finds that red phosphorus absorbs many substances without combining with them after the manner of porous charcoal. Thus it may be made to take up 3.369 per cent. of iodine, a considerable quantity of sulphur, rosaniline, etc. This power of "chemical adhesion" may be easily and strikingly shown by shaking powdered red phosphorus in a test tube containing a colored solution of iodine in bisulphide of carbon. When a sufficient quantity of phosphorus is used the whole of the iodine is taken up and the solvent rendered colorless. Rosaniline is similarly removed from an ethereal solution, and a portion of it may be again recovered unaltered from the phosphorus by washing with alcohol.

CORRESPONDENCE.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.—CONTINUED.

(By our Traveling Correspondent.)

Los Gatos

is situated 10 miles southwest of San José, on the road leading to Santa Cruz. This precinct casts about 200 votes, a fact, from which some idea may be had of its inhabitants.

Its Lumber Interests.

Jas. H. Lyndon, merchant and lumber dealer, sells annually at this place, about 250,000 pickets, 300,000 shakes and 300,000 feet of lumber. The prices of which at this writing are from \$18 to \$20 per M., for lumber; \$25 to \$28 per M., for pickets; shingles from \$3.50 to \$4 per M., and Redwood posts from 9 to 10 cents each.

Los Gatos Manufacturing Co.

The works of the Los Gatos Manufacturing Co., consist of a stone flouring mill, 3½ stories high, with five run of burrs, and a two set woolen factory. The woolen factory is in a wooden building, 100 feet southerly from the flour mill. This Co. has lately expended a large amount of money to raise the water up to a 200-foot head. All their machinery is driven by water-power. The water of Los Gatos creek is taken out about a mile above Lexington and conveyed in a very substantial flume 3½ miles, along the steep sides of the Los Gatos cañon, then is dropped into a reserir 1,600 feet south of the mill on the top of the hill; from there it is conveyed in iron pipes to the mill, and small Turbine water wheels, by which about one-sixth of the water formerly used is made to do the same amount of business. This Company is said to have more grain in store than any other mill in Santa Clara county, and sufficient to keep them running until another harvest. It is a Corporation of 1,000 shares of \$100 each, and is all owned by four persons—Hon. W. S. McMurtry, President; C. C. Hayward, Secretary; and W. H. Rogers, Treasurer and Supt. of the flour mill.

Extensive Hop Ranch.

The ranch of H. W. Coe, distant from San José 1½ miles southwest, has been established 14 years. It contains 75 acres, 55 in hops and the balance under various products. Usually about 100,000 lbs. of hops are raised. This year, however, only one-third of that amount was produced. For the past three years hops only sold for about 10 cents per lb. Mr. Coe, however, by shipping his crop East realized 23 cents. This year the article commands from 75 cents to \$1 per lb. The business as a whole has not been profitable. Mr. Coe has been offered \$10,000 for the rent of his hop field the coming year. The hops raised here are of the "English White Bine," the best adapted to this climate. Mr. Coe is a practical man, and has the most approved kiln in the State. He has just completed a press which with four men and two horses will press six tons in 24 hours. All of the most approved machinery for the business is employed. He contemplates extensively irrigating and manuring his fields this year. He is at present the largest hop-grower in this State. California raised this year about 5,000 bales of 200 lbs. each. This is the only State in the Union in which there is at no time an entire failure in the crop on account of hop lice or other plague; and on account of certainty of crop must rank first among the hop producing districts of the world. Our hops command a premium above the Eastern in Europe as they more closely resemble the hops of that country. Last year most of the planters in California plowed out their hops, but the same parties having their kilns, etc., will re-engage in the business the coming season, and probably swell the yield to 15,000 bales. Although the crop has been very short this year the flavor and strength of the article will be found to be superior to any heretofore grown, thus further building up the reputation of those sent abroad. Mr. Coe employs reg-

ularly 15 men and in the picking season about 300.

Opium Culture.

San José has obtained an undeniable right as being the garden spot of California, and bids fair to obtain fresh laurels to deck her brow. Her enterprising citizens are not content with producing an unlimited supply of luscious strawberries, Lawton blackberries, hops, silk, etc., but now one of them, Mr. T. Appleby, starts with an experiment in the opium trade, so successfully as to place the theory on a sure foundation of success. Capt. Aram has also tried the experiment of raising the opium poppy, and with marked success. The opium is procured from the flower or bud of the poppy, while in a green state. As to the quantity that can be produced, or what kind of lands, or in what portion of the State it will do best, remains a question yet to be solved. One gentleman in Santa Barbara, and the two above-mentioned, are, I believe, all that have as yet tried the experiment in this State. Mr. Appleby says it will do well wherever corn will grow.

Propagating Hand Frames.

We have now another claimant, who, in producing an article that our flower and amateur gardeners have long needed, deserves special notice; and we therefore proceed to describe the claimant to public patronage as Bullard's Propagating Hand Frame. This new invention has been brought out to supply a want, as it is well known to gardeners and amateurs that, by the ordinary method, scarce 20 per cent. ever take root, and even then many die in maturing.

Science, that great demonstrator of truth, shows that when the gases are confined, they poison the space and kill the plants. In this frame of Bullard's invention, there are valves which can be opened and closed at pleasure, thereby obviating that difficulty, by giving a circulation of air when necessary; and by so doing, you obtain good, vigorous plants, and from 75 to 80 per cent. increase. The frames are cheap, and need only to be seen to be appreciated.

These frames should never be painted, as by the combination of the nitrogenous gas with the lead, acetate of lead is emitted, and tends to the weakening of the plants. The frames only require to be lime-whitewashed, with lamp-black in the wash, which tends to the healthy growth of the cuttings. The frames do not require to be moved. Water around them, and they get by this method all the moisture they require.

Calaveras Valley

is situated twelve miles northeast of San José, and contains about 1,000 acres of level land, owned by some fourteen persons, who each have additional acreage extending into the hills on either side of the valley. It was first settled in 1854. H. Pomeroy, Esq., has 175 acres in the north end of this valley, but the largest portion of it extends into the foothills on the west side of the valley. Mr. Pomeroy has about eight acres of an orchard and vineyard, and manufactured last year 1,200 gallons of wine, besides marketing grapes throughout the season. He also raised 700 sacks of grain. His products for the last season netted him \$2,600; this includes poultry, cattle, etc.

South End of the Valley.

Mr. John Carrick, at the south end of this valley, is cultivating about 50 acres, but is the possessor of 400; his principal business is stock-raising, and at present has 150 head of mixed and American breeds of cattle. His crop of cereals this year was only about one half the usual yield. Alfalfa does well here; it grew three feet high the present season.

Alviso,

situated at the head of San Francisco Bay, and six miles north of San José, contains about 200 inhabitants. Robt. Hutchinson, lumber dealer at this point, sells about 400,000 feet of lumber annually for building purposes. The lumber is brought here from your city. Redwood lumber retails here for \$20 per M, and fir at \$22.50. Mr. H. has also a fine warehouse, with a capacity of 700 tons, used for storing hay, previous to shipment to your city. On hand at present, 500 tons; shipped this season, about 800 tons.

Alviso Warehouse,

John S. Carter & Co., proprietors, is 80x160 feet; has a capacity for storing 5,000 tons of grain; on hand at present writing, 3,000 tons. Their annual shipment is about 7,000 tons. This warehouse is a fine fire-proof brick structure.

The Union Warehouse,

C. J. J. Ortley & Co., proprietors, is a

very fine building, both fire and water-proof, and has a capacity of 2,500 tons. Their annual shipment is about 5,000 tons. The Empire warehouse, at or near the above-named, has a similar capacity, and ships annually about 5,000 tons of grain to your city.

Milpitas.

An old legend in this county is, if you have never visited the above-named place, you will die a f—l. Without further comment, it contains 550 inhabitants (the township contains 666 inhabitants), a very ordinary hotel, one store and two blacksmith shops. It is situated seven miles nearly north from San José.

Fruit, Grain and Vegetables.

Wm. Boots, Esq., is cultivating 264 acres, situated 6 miles north of San José, and 2½ miles east of Alviso; of which 16 acres is in orchard, 2 acres in grape vines, 30 in strawberries, 3 in blackberries, 9 in asparagus, and the remainder is in grain and pasture. From 14 acres of strawberries he marketed this year 50 tons. Mr. B. has the place stocked with 20 head of fine cattle, some hogs, 34 head of horses, and one fine stallion, the celebrated "Hercules," who is a rich brown, free from white, stands 16 hands high, fine symmetry, with immense power and substance. He is by Kingston. 1st dam Daughter of Toscar, by Bay Middleton; 2d dam Malvina, by Oscar; 3d dam Spotless, by Walton; 4th dam by Trumpeter; 5th dam by Highflyer; 6th dam Otheothea, by Otho; 7th dam by Snap; 8th dam by Regulus; 9th dam Wildair's dam, by Steady; 10th dam by Partner; 11th dam by Greyhound; 12th dam Chestnut Layton, by Makeless.

L. P. Mc.

[Our correspondent sends us the pedigree of "Geo. M. Patchen, Jr.," made out in a somewhat original manner, which we will give next week.]

THE SWEET POTATO—HOW TO KEEP IT.

EDS. PRESS:—By some, the sweet potato is so liked as to be classed in their list of delicacies; while many in the Southern States regard it as a daily necessary, or as we here do the Irish *solanum*. I have thought its production might be utilized and extended and its use and enjoyment protracted far beyond what is possible to the brnised condition in which it is sent to market.

In the Southern States—its acclimated home,—the only conditions necessary to its keeping through the winter and spring, is its security from wet and freezing, with this contingency, that like our winter apples and pears they must not be bruised in handling, which is unavoidable by bagged transportation. They were dug before hard frost, picked up in baskets and loosely transported in carts and wagons to their prepared place of keeping. Here, in all the coast region or out of the snow and freezing limits with the same transporting care, it could be kept over winter, and its enjoyment extended to the incoming of the next crop. Thus inducing a much greater use and demand.

All that would be necessary would be to gather and pack as we do our apples, etc., in boxes, instead of bags, or at least all that are intended for winter and spring use. And further, that they be kept dry and not exposed to moisture. The family supply might be removed from their marketing boxes into larger ones, and filled in with dry sand or wheat bran. Though in good keeping condition, *i. e.*, in covered exclusion from moisture and frost, no sand is necessary and is not generally used.

The difference between boxes and bags would be very little. Tho boxes might be as large as would admit of convenient handling. Many would gladly admit this small enhancement of price as the only contingency to its protracted supply. If the fruit-grower may market his apples and pears at one-half, three-fourths and one cent per pound, the much higher average of the sweet potato would admit of the same system of marketing,—its return of boxes, also. Many, in October and November lay in their family supply of potatoes for the winter and spring, and were it possible, would also lay in a supply of the sweet, as above suggested; the abundant bagged, bruised supply in the market availing nothing for this purpose, for they will not keep long.

The varieties or different kinds, is also a

matter of interest. The sandy pine belt of the Atlantic—the Carolinas especially, is the adopted home of the *batalos*, it being with many there a prime article in their daily bill of fare; its constant use is regarded as security in children and others against dysentery and bowel complaints. Notwithstanding its adaptation to sand, it was generally cultivated, and produced well in the clay lands of the up country of the Carolinas.

The kinds cultivated were the common yellow (as in the market now), the yellow and red yam, and the Spanish, with its sub-varieties. This last is regarded as far superior to any other in sweetness and flavor. In the early period of its keeping it cooks dry like our best *solanum*, though later losing its dryness, yet retaining the apparent sweetness of sugar. One objection to this kind is its length and irregular formation, running frequently to an inconvenient depth into the ground, greatly increasing the labor of digging.

This inconvenience was obviated by artificial means. In the latter part of the season, or when the vines were well grown, cuttings thereof, several feet long, were planted or laid in furrows—ground prepared, covered and cultivated. At every joint of these a small short potato would grow. These were used for seed and were found to produce their like, *i. e.*, short potatoes, having all the superior qualities of the old type without its abating inconvenience. To perpetuate this desirable habit, I think the propagation should be by seed from cuttings, as above, by which I suppose any long growing variety might be modified. The sub variety, as above, in my county, was known as the Durham, and was generally sought and propagated.

Some have asserted that the Spanish will not grow or succeed here as the common yellow does. This I cannot believe. The long deep-growing old Spanish type might not be adapted to general cultivation here; but objection would not lie against the short-growing Durham or any similar sub variety of the Spanish, for no difference did or does exist in adaptation of the different varieties to soil and climate—all however doing better in the sand. Hot bed stimulation to early planting will give more time for growth and greater yield, for in its tropical home, it is a perennial with unlimited time for its perfection. These suggestions are commended to the consideration of the producers, and gustative appreciators of this valuable edible. C. M.

A Remarkable Plant.

At the last meeting of the Cal. Academy of Sciences, Mr. W. G. W. Hartford submitted a remarkable plant from San Miguel Island, which is about 30 miles off the coast from Santa Barbara. It is known to science as *Leptosyne Maritima*. It also abounds on Santa Catalina Island off the coast of San Pedro. The peculiarity of this particular specimen consisted in its enlarged size and general robust appearance, when contrasted with that of the same species grown on the main land in Santa Barbara county, near the coast, where it is a fine golden flower two or three inches in diameter with a stem about the size of a quill. The one exhibited differs greatly in size, so much so, that aside from close botanical alliance no one would casually suspect any kindred or special family resemblance. Dr. Kellogg said that this plant exhibited a marked and peculiar example of the fact that plants would harmonize themselves with the surrounding conditions of nature, and, so to speak, acclimatize themselves. The section of the body of this one was from three to five inches in diameter, with concentric rings of annual growth, pith an inch in diameter, and limbs like a broom handle. On the coast it is a sub-perennial herb. No plant possessing so much interest to the floriculturist has ever been brought before the Academy.

Dr. Hewston asked if Dr. Kellogg thought this plant gained additional strength by reason of its growing in an exposed position where it was subjected to heavy winds. He called attention to the fact that, as a rule, the heaviest bodied vegetation grows on the sheltered sides of hills.

Dr. Kellogg thought that observation did not apply to all vegetation, but that this species and several others which he named were not affected unfavorably by hard winds. He thought that, as a rule, the vegetable as well as the animal kingdom adapted itself to climatic and other circumstances.

The tobacco factories of New York and Brooklyn employ 20,000 children.

HOME AND FARM.

THE APPLICATION OF SCIENCE TO FARMING.

[Concluded from last week.]

And now a word about the acquirement of such knowledge as the farmer needs. I have already hinted at one or two sources of supply—the Farmers' Club and the home experiment.

Taking it for granted that our farmers are fully aware of the importance and advantage of interchange of thought by clubs, papers and essays, I shall turn to the means of gaining knowledge at home, briefly referring to some of its uses.

As the farms of our country are, in fact, and necessarily the nurseries of most of our national virtues, they should be made homes in the truest sense of the word. Our application of knowledge should be such as would prevent our sons and daughters from transplanting themselves to the crowded cities where they are so liable to become the slaves of pernicious fashions, or the victims of contaminating vices.

Experimental Farms and Fields Needed.

As our State should have an experimental farm of magnanimous proportions, so should each farmer have a field or lot set apart for experimental culture. Each member of the family, boy or girl, should have an interest in this field, and some practical duty. In feudal Prussia, it is not considered undignified for the son of a baron, banker, or any of the upper classes to engage in farm labor; holding the plough, grooming the horses or any other farm duty. A little feudalism of that kind would be a good thing in this country.

This experimental field—or school ground, if you please to call it such—would answer two purposes. It would be a diversion and rest from the dull and exhausting labor of regular farm work, and would engender a love for farm life and the farm home. In addition to this it would be a most valuable school for both young and old. The science, art, and love for agriculture would be learned at the same time. Some of us have seen farms where families of children have grown up and gone out into the world to be no better farmers than their parents; or perhaps they have gone into our cities and become menials, hoodlums and office-seekers. But let us see what kind of farmers they left behind them.

This farm is more noted for what it has not, than what it has. It has but few of the labor-saving appliances. The fences and lanes all seem to be in the wrong place. There are no gates where gates ought to be. There are no trees, either for shade, ornament, or fruit, worth mentioning. The compost from the stable and cattle yard is carried into the creek; and every year the straw pile is buried to get rid of it. The farm is not quite the picture of desolation, for the owner manages to get about ten bushels of corn or wheat to the acre, by hard labor and a vigorous contest with weeds, vermin and other enemies to the farm.

No wonder, that the sons and daughters of such a farmer, born as most of us are, with an instinct for something more agreeable, as we fancy, than hard labor, should flee from the burden of such a life in prospect.

Farm Life Should be Made Pleasant.

In order then to create and perpetuate the dignity of farm labor, and to retain on the soil those that are born there, that they may become good, or better farmers than their parents, farm life must be made pleasant and desirable. Cultivation of the beautiful and agreeable, as well as the useful should be encouraged. Flowers and articles of ornament should grace every farm house, however humble. Happily these things need not cost much. They are planned and formed during hours of rest. Only knowledge is required to procure and arrange what nature has so plentifully bestowed among us.

In all this earnest talk about the application of knowledge to the bettering of the farmers' condition and his happiness, I do not wish to be understood as offering never-failing recipes for earthly contentment.

The Farmer Should have Knowledge and the Wisdom to Use It.

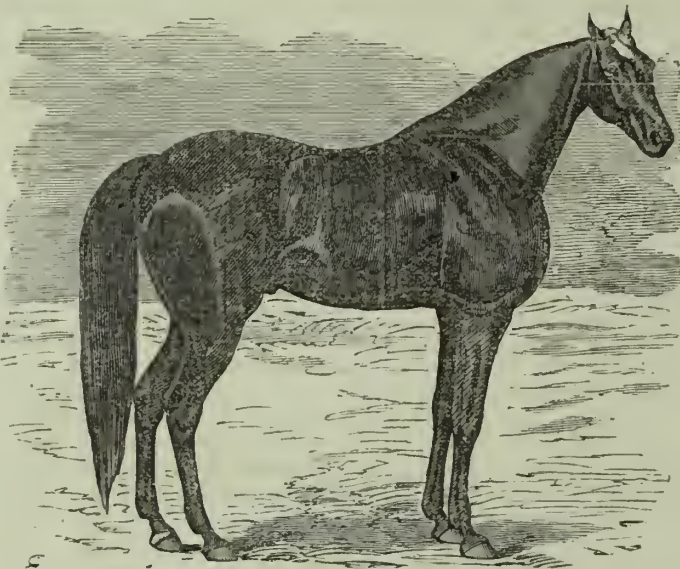
It is certainly not a very difficult matter to obtain any amount of knowledge on agriculture and its branches, but it is a difficult matter to know how to apply that knowledge so as to make it practical. No college, book, or essay can do more than

lay down principles. Application, success, or failure rest alone with the individual. So there is a world of meaning in what the Georgian poet said: whether a man's land is rich or poor, there was more in the man than there was in the land."

If we have all the knowledge in the world, and not the ability to apply it, to all the world and to ourselves that knowledge is useless. And though we have the ability, and do apply that knowledge, and yet keep it to ourselves, we are of but little use to the world—no more than the miser who dies and leaves his hoarded pile.

Our conclusion then is that we should get what knowledge we can, and in our getting that we should get the wisdom to use it. We should put it out at interest with our neighbors—first being sure that we have the genuine metal. This is the best method for its increase and diffusion.

FRUITS AS FOOD.—In every community there is a growing interest in fruits. They are beginning to be regarded, as they justly should be, as one of the essentials of a proper diet. They ought to hold an equal rank with bread and vegetables. And while there is this growing interest in fruits, there is also an increasing variety being introduced in our gardens, nurseries



CASSIUS M. CLAY, JR.

and orchards. This is well, for it increases the chances of a full supply, prolongs the season for fresh fruits and adds variety which is always pleasing and healthful.

There is no doubt but that health is greatly promoted by a free use of fruits with every meal. Indeed fruit should be a part of every meal. If meats should decrease and fruits increase it would be advantageous to health.

We eat too much solid, too much concentrated food. We overtax the digestive powers. We overwork the stomach. A generous supply of fruit with our food would greatly relieve the overburdened organism.

A JOLLY LIFE.—Insects must lead a truly jovial life. What must it be to lodge in a lily! Imagine a palace of ivory or pearl, with pillars of silver and capitals of gold, all exhaling such a perfume as never arose from censer!

Fancy again, the fun of tucking yourself up for the night in the folds of the rose, rocked to sleep by the sighs of summer air, and nothing to do when you awake but to wash yourself in a dew drop, and then fall to and eat up your bedclothes!

THE PARLIAMENTARY HORSE.—In old coaching days in England the practice of racing, to the danger of passengers, prevailed so extensively that an act of Parliament passed to the effect that all four horses hitched to a coach should not be allowed to trot at the same time. To evade this law the proprietors took care that one of the horses in each team should always be the fastest trotter that money could procure. This horse which always trotted, while the others galloped, was called the "parliamentary horse."

LIVE STOCK.

Celebrated Trotters.—No. 9.

Cassius M. Clay, Jr.

In continuing our notices of celebrated trotters, we come now to Cassius M. Clay, Jr. This fine Kentucky stallion is by old Cassius M. Clay, dam by old Abdallah. He is the sire of Kentucky Clay, Whip Clay, American Clay, Conscript, and other noted trotters.

As a general rule, great race horses have descended, like the one whose portrait and pedigree is herewith given, from great families. In looking over the history of such, an impartial observer must admit the truth of the above proposition. The great families of the United States can very easily be counted, and are comparatively few. The Galopade, Maria Black, and Myrtle families have greatly distinguished themselves in America, and have produced as their representatives on the American turf, such performers as Reel, Fandango, Rirgadoo, Beacon, Bayswater, Princeton, Daniel Boone and Kentucky.

Still, it sometimes occurs that great

bred animals will be exported from California to breed back again with the parent stock. The addition of bone and muscle gained by the progeny of thoroughbred stock raised here, will be sufficient inducement to open the eyes of stock men East to come to this coast for animals with which to cross their favorite breeds.—*Atla.*

Berkshires in the Western States.

Monmouth, a flourishing prairie city, and the Shiretown of Warren county Illinois, has become quite famous for the superior quality of its blooded swine—particularly the Berkshires. The *Atlas* of that place, in a recent issue, referred as follows to a gentleman largely engaged in that business:—

Adam Rankin of this city, who is on a tour sweeping this and adjoining States for premiums on his fine lot of hogs, wrote us from Chicago on Tuesday, that at the Iowa State Fair, he was awarded the 1st premium of \$30, on best Berkshire boar over one year old; 1st premium of \$20 on Berkshire sow over one year old; and 1st premium of \$10, on best five pigs under six months old. Also sweepstakes of \$50 on boar, and \$25 on sow. At the National Swine Exposition in Chicago he was even more successful, taking the 1st premium of \$40, on best sow two years old; 1st of \$100 on best sow with litter of pigs; 1st of \$100, on best display of any age; and 2d of \$100, on best display of hogs or pigs, any age or breed, bred by exhibitor. A special premium of Tubbs & Soffield's steamer valued at \$75, for best ten pigs under six months old; and Anderson's Universal Steamer valued at \$175, for second best display of hogs or pigs by one exhibitor, making a total amount of \$725 in premiums. If any breeder in this or any other State can show a better record this year, we shall be pleased to hear from him.

It may be interesting to some of our readers to know that the Berkshire, bred and sold in this State by R. S. Thompson, of Hope Vineyard, Napa, are of the same stock as those, exhibited as above by Mr. Rankin and were imported to this State from his farm.

Abusing Animals.

"American judges are every year getting a better appreciation of the rights of animals, and 'gentlemen' cannot wantonly abuse an animal without punishment."

This extract from an Eastern exchange produces a feeling of gratification in the heart of every person—man, woman or child—who is blessed with common tenderness. There is nothing more degrading in humanity, than the habit of abusing dumb animals. It is a common sight, on our streets and on public highways, to see a man pound and kick a horse, or lacerate a poor mule with the lash, until the animal pants with pain, and stands trembling in every limb. It is frequently observed that dogs get a share of this un-called-for brutality, not only by men, but by boys. Only a few days ago, two or three boys, aged about eleven years, tied a fine dog to a fence on Powell street, and beat it with clubs until its cries brought a gentleman to its relief. The excuse on the part of the boys, was, that the dog refused to run after a stick. We would suggest to parents to teach their children tenderness to animals, as one preventive to this great wrong. Children easily acquire the spirit of gentleness in very early youth, and nearly all little children are fond of domestic pets. A boy that will abuse an animal, for the very love and sport of it, is in danger of growing up a hard-hearted, bad man—very likely, he will abuse his wife.

It is to be regretted that the press do not say more in defence of the rights of animals, and publicly denounce the frequent scenes that are enacted in our streets, and treat the parties as they richly deserve. There is no degree of contempt deep enough to hold the man who lets his passions master his judgment, and vents his rage in abusing and injuring a dumb animal.

The importation of live hogs from Iowa to California seems to be a lively and profitable business.

INTERESTING TO STOCK BREEDERS.—Some importers and breeders of fine stock claim that the progeny of both horses and cattle improve in the genial climate of California from eight to twelve per cent. over the original stock. They account for this in the nutritious properties of the grain and grass of our State, dried as they are, in an atmosphere void of rain or moisture, as well as the absence of snow and ice. There is no long, cold winter weather, which alone is enough to stunt the growth of young animals, but a climate, varying it is true, in the valleys of the interior from thirty eight to one hundred Fahrenheit, but in the coast counties not so much. Some of the more enthusiastic stock men assert that the time will come when the offspring of thorough-

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA COUNTY.

THE Oakland *News* says: The sugar beets raised near Alvarado this year do not keep, and in some cases they commence to decay before they can be worked up.

BUTTE COUNTY.

THE AGUAS FRIAS RANCHO.—The Marysville *Appeal* describes this ranch as follows: It is situated in the counties of Butte and Colusa, about six miles south of Chico. The original rancho contained 26,761 acres, to which has been added by purchase 810 acres, making 27,571 acres, its present dimensions. The land consists of fine meadow and rich grain land, open grassy glades, and well watered by Big and Little Butte creeks, which traverse its entire length. The ranch is well stocked with choice horses, sheep and cattle, besides a fine band of imported Cashmere goats. The land is leased for a term of years, the length of time being at the option of the tenants, who pay one-fourth of the crop as rental. The same paper says: Mr. D. C. Day, of the foothills, Butte county, left at this office yesterday a box of grapes grown in his vineyard. We do not remember of having seen a finer lot this season. The bunches were very large and compact; the grapes large, plump and pulpy. It is pretty generally conceded that the foot-hills are superior to the plains for grape culture. Every succeeding year demonstrates the truth of this theory, and we believe the day is not far distant when this belt of land will be devoted to this branch of industry.

LARGE YIELD.—The Bidwell ranch produced 70,000 bushels of grain the past season.

EXTENSIVE FARMING.—If the season will justify it, D. M. Reavis will seed 3,000 acres of land this winter.

RAMIE PLANT.—Geo. F. Nourse had on exhibition at the Chico fair, specimens of the fibre and cloth manufactured from the ramie plant, grown on his ranch.

CONTRA COSTA COUNTY.

THE Contra Costa *Gazette*, learns that a sheep owner named Kalkin, who has had a flock of about 1,700 sheep pastured in that vicinity for a number of weeks, started them for the San Joaquin range the latter part of last week, and on Saturday last halted with them in Ignacio Valley, where they began to exhibit symptoms of great distress and to die in large numbers, and up to Tuesday last, it is said that he had buried 400 or more, many of them very valuable thoroughbred animals. It was at first thought that the sheep had been poisoned by eating some noxious weed, but it has since been found that they were poisoned by eating wheat that had been prepared with phosphorus and put out to poison squirrels, as, on opening them, the first stomach was found packed tight with a substance that appeared like ashes, and the membrane perforated in various places with holes as if burned through. It seems almost incredible that poisoned wheat enough had been put on any ground passed over by the sheep, if it had all been eaten by them, to kill so many; but there is no room for any other supposition that will account for the fact.

EL DORADO COUNTY.

THE Placerville *Republican* has been visiting the wine cellars of Mr. Robert Chalmers at Coloma. Mr. C. has a vineyard of 85 acres, a large percentage of which is of choice foreign varieties—altogether over 100,000 vines. He will make this season 40,000 gallons of wine and 15,000 gallons of brandy—consisting of ten or twelve kinds of wine, and grape, apple and peach brandies. In addition to the manufacturing of wine and brandies, Mr. Chalmers sends immense quantities of fruit to market during the season, frequently from two to three tons per day.

FRESNO COUNTY.

MR. W. H. MARTIN, general agent for California Immigration Union, furnishes the Fresno *Expositor* with the following information, in relation to the settlement upon the land belonging to the company. Mr. Martin went East in June last to make arrangements with families for the establishment of a settlement of 30 German families to settle upon the lands of Messrs. Chapman, Friedlander, Easterby, Church & Co. Four families have arrived and express themselves highly pleased with their position and future prospects. The company donated to each settler 40 acres of land. The families that arrived with Mr. M. succeeded in obtaining 160 acres each upon

Government land, outside of the company's limits. They are to be furnished houses, water, and if needed credit, that they may be enabled to establish themselves and make the settlement permanent. It is proposed to furnish water to each settler at the rate of 50 cents per inch—estimating 160 inches of water as sufficient to irrigate 160 acres the entire year through thus making the entire cost per year, for irrigating 160 acres of land, \$80.

FINE POTATOES.—The same paper has been shown a potato of the pink eye variety, which weighs four pounds and six ounces. There are also four other potatoes with it, two red and two pink eyes, which aggregate five pounds 14½ ounces, or a total of 10 pounds 4½ ounces for the five potatoes. They were raised by Jonathan Lewis, who has a mountain ranch, on the Fresno. Dr. Ellis, near Centerville, obtained 26 pounds of potatoes from one hill.

HUMBOLDT COUNTY.

THE West Coast *Signal* states that there is, in Humboldt county an area of 2,880 square miles, equivalent to 1,795,000 acres of land, which, for general purposes, is not surpassed in the State. It is well timbered and watered, and convenient to market. The stock and wool product of the county is increasing rapidly.

THE Humboldt *Times* says: The fleet of vessels now in the bay numbers fifteen, being the largest at any time since last winter. These will be able to relieve some of the warehouses which are full to overflowing of produce. We understand that there is in the warehouses at Hookton over 4,000 tons, and at Myers' Landing over 2,000 tons. Large quantities of produce are stored in the warehouses at Eureka and Arcata.

THE same paper says: Chr. Hanson has sent to this office samples of tobacco raised on his place at Yager this season, which are certainly superior to anything of the kind we have seen grown in Humboldt county. We are informed by him that the samples are but an average of his crop, which, he says, when cured, will make about 600 pounds. He only planted this as an experiment, but intends next year to raise a much larger crop.

INYO COUNTY.

THE OWENS' RIVER COUNTRY.—The agricultural as well as mining interests of this region are prospering to a very great extent. The roads leading out of the valley are constantly lined with teams hauling out the valuable products of the mines, or returning with such commodities as must be supplied from the outside. The agricultural wants of the inhabitants are almost entirely supplied with the products of their own soil. Heretofore nearly all the business of this valley has passed through the long route, via Los Angeles; but active steps are being taken to connect the Owens' River Valley with the Stockton and Visalia railroad, by a well-constructed turnpike about 100 miles in length, which it is estimated will cost about \$150,000. A careful survey of the route has already been made, and the work will undoubtedly be completed as soon as the railroad has made the connection on this side. Such a work is greatly needed for the proper development of this important and now isolated region.

KERN COUNTY.

ONE thousand acres in one field is to be planted in cotton in Kern county next spring. Successful experiments have already been made in the same vicinity in cotton raising.

LOS ANGELES COUNTY.

THE Los Angeles *Star*, has the following: CENTURY TREES.—Three fine specimens of this world renowned tree can be seen in a lot on Los Angeles street, between Third and Fourth streets. To persons who have never seen a century tree in bloom, it would be worth their while to make these a visit. The trees are about twenty-five feet high, and partly in bloom.

LIVE FENCES.—The willow and cottonwood will be largely planted the winter for fencing. In addition to which, when properly cared for, these "hedge plants" in a few years, will furnish an abundance of firewood.

FIGS.—Large quantities of this delicious fruit are remaining on the trees, ripe and unplucked, going to waste. We regret to see this useless loss of the goods of the fruit world.

THE GRAPE CROP.—The arduous labors of the vintners of this county are coming to a close. The abundant crop of grapes produced here has mostly been worked into wine. It is said that the grapes of this season, notwithstanding the dryness of the year, are as good as any that have ever been grown in the county.

GOOD CORN LAND.—At Gallatan, Mr. Baske has a field of corn of 100 acres, which will yield throughout over 80 bushels to the acre. One acre yielded 105 bushels. The pasture of the stalks after the corn is harvested has been sold for \$800. Four years ago this land was purchased for \$10 an acre. It could not now be obtained for \$100 per acre.

THE Los Angeles *Express* takes issue with a writer whom it supposes to be Col. J. J. Warner, in the assertion that the pine-apple will not grow and ripen in that climate. The *Express* asserts that Elijah Workman this season raised two splendid specimens of the pine apple in his garden south of the city. They were large and of fine flavor.

WILD geese are becoming so plentiful in some portions of Los Angeles county that they are largely fed to hogs. One gentleman at the Bolas rancho used one week over one hundred this way.

MENDOCINO COUNTY.

AN Ukiah correspondent of the *Bulletin* writes: Estis, on Cold Creek, on account of the cold storms last spring, succeeded in rearing only about 250 lambs from 1,000 breeding ewes. Mr. March had about 1,000 from 1,500. Mr. —, on the east side of Russian River, opposite the town of Sanel, reared 350 from 500 ewes. The best shepherds, when they have at their command wheat fields along Russian River, or in the above mentioned valleys, separate the wethers immediately after harvest, "stubble" them till Autumn, and put them into the shambles as yearlings, or, more accurate, after they have been about eighteen months on the hoof. A sheep will do pretty nearly the best that is in him in that length of time, and after that his room on the range is more valuable than his carcass. Though I have nowhere seen sheep so thick as on Dobbins Creek, Mendocino is better for that animal than Humboldt, on account of the late Spring storms which sweep over the naked ranges of the latter county. I was told of a flock on Eel River from which 600 lambs perished in a single sleet storm last Spring.

A GENTLEMAN just down from Mendocino county reports that an abundance of rain has fallen there thus far. The farmers have been favored with splendid showers, and the grass is growing finely. Considerable more rain has fallen in Napa county this year than in this section, and the vegetation shows the effects of it.

GOOD YIELD.—In Ukiah valley, Mendocino county, fifty-eight thousand bushels of grain were raised the last season from fifteen hundred acres of land, being an average yield of over thirty-eight bushels to the acre, more than double the average throughout the State.

MERCED COUNTY.

THE San Joaquin Valley *Argus* has the following: Maj. Murray turned his attention this week to trapping for beavers, and thus far has had unparalleled success. He has three traps, which he set on Sunday evening last. On Monday morning he found three beavers in his traps; on Tuesday morning two, and on Wednesday morning one—making six in three days. These industrious little animals have been a source of great trouble to the millmen and orchardists along the river, as they cut down and destroy the trees, with which they build dams in the ditches, turning the water away from the mills.

THE same paper says: Mr. S. K. Spears sent us this week a sack of potatoes—yams; which average about four pounds each. He has 10 or 12 acres of potatoes now being gathered on his ranch, and sent us these as specimens.

THE largest stock of long-wool sheep in California at present, is that belonging to Buckley & Co., in Merced county. They have 25,000 altogether, of which three-fourths are merino, 50 pure Cotswolds, 500 three-quarter Cotswolds, 4,000 half Cotswolds, and 1,500 one-quarter Cotswolds. In two Cotswold herds of 1,000 or 1,500 sheep each, fourteen died during a cold storm in February, 1869; and in two merino herds the deaths in the same storm, and under similar circumstances, numbered 500.

NAPA COUNTY.

THE grape picking in the Calistoga vineyard is finished, except the gleanings of the second growth. It has yielded eighty per cent. over the increase of the last year. The wine-making will close up in a couple of weeks or more. One hundred thousand more vines will be planted in the coming season.

NEVADA COUNTY.

THE Nevada *Transcript* has the following: I. J. Rolfe and Josiah Rogers have started the manufacture of brandy from

manzanita berries. We visited Mr. Rogers' wine house recently, and witnessed the process of manufacture. The berries are first fermented in a vat with water, and then the liquor is distilled. It has more body than grape brandy, and is much smoother to the taste than grape brandy of the same strength. Messrs. Rolfe and Rogers are highly pleased with their experiments, and they propose to make, this year, about 200 gallons of manzanita brandy. The berries are very abundant, and can be gathered at one cent per pound. Another advantage is that they can be kept in sacks like grain until required for use, while grapes must be pressed when taken from the vine. The entire cost of cultivation is also saved, as manzanita grows in such quantities that a hundred distilleries could be supplied without making much of a drain upon the crop. If the liquor improves with age, as does grape brandy, it will be a great favorite, as in its new state it is much more agreeable to the taste.

THE same paper says: We have received some fine raisins from the ranch of Moak & Sissum, on Little Butte creek, equal, if not superior, to any we have seen in this market. They have made the experiment, and cured about 700 pounds, and find it to be both economical and profitable. They have 10,000 vines, of varieties, and keep adding to it every season. There is, in the cultivation of the raisin grape, more thrift and profit than in that of the wine grape, and we would like to see this branch of industry more extensively carried out by the grape-growers, and this market supplied with raisins of home manufacture. They have also made this season 1,500 gallons of wine.

THE Grass Valley *Republican* learns that a piece of malicious mischief was done in Fish Lake valley on the night of October 16th. A haystack on Jesse Davis' ranch, one mile from Fish Lake, was set fire to by some unknown person, and 47 tons of good hay burned up. Hay is quite scarce in that region—is now \$30 per ton, and steadily rising.

TRUCKEE, in Nevada county, one of the most elevated locations on the Central Pacific Railroad, promises to become one of the most prosperous towns along the line of that great thoroughfare. In addition to its unlimited facilities for water power, conveniences for smelting works, etc., the town is the depot for the shipment of the produce of Sardinia and Sierra valleys and several other localities which are becoming noted for their dairies and other agricultural industries. During the past season, according to the Nevada *Transcript*, the shipment of butter, alone, from Truckee, has amounted to half a ton per day. There are still large areas of unoccupied land in this mountain region, well calculated for dairy and grazing purposes.

NEVADA farmers have been plowing for several days past.

SACRAMENTO COUNTY.

THE Sacramento *Record*, says that a firm of pork packers in that city have received from the East 500 head of hogs.

MANY purchases of ranches and lands in the foothills, says the Folsom *Telegraph*, have been made of late by men from other sections of the State. They, by so doing, know that this is the only section of the State where lands can still be purchased for grazing or vineyard purposes. The day is rapidly approaching when these lands will be eagerly sought after and will command a price far beyond their present value. Every man who owns a good ranch in the hills should improve and fence it, as it adds greatly to its value, and if he then desires to sell, he can always obtain a good price for it.

SANTA BARBARA COUNTY.

THE Ventura *Signal* states that a large amount of wheat will be planted this fall, some farmers putting in as much as 1,000 acres.

SAN BERNARDINO COUNTY.

THE new fruit crop in this county is reported a failure.

SANTA CLARA COUNTY.

FINE PRUNES.—The California *Agriculturist* says: We have visited Mr. J. M. Paterson's plum and prune orchard, where we found him busily engaged in drying his Petti Prune de Agen. One hundred pounds pitted dried 30 pounds of fruit. He has also raised many of the Gross Prune de Agen, a large red prune.

THE San Jose *Mercury* says: D. M. Harwood, of Lone Hill Vineyard, is nearly through with his vintage for the present season. His crop amounts to 20,000 gallons of wine, of a very superior quality. A portion of his five-year old vineyard yielded over 200 gallons per acre.

HORTICULTURAL.

Some Tropical Fruits now being, or likely to be, Cultivated in California.

[Written for the Press, by E. J. HOOPER.]

The Guava (Psidium).

As in our first paper, published in the 19th number of the Press, I described two of the chief species among seven or eight of this plant or shrub, it is not necessary for us to say much more concerning it, and we will now merely add to it a very few more remarks. The fruit is rather bigger than a hen's egg, of a yellow color, very smooth, and has a peculiar smell. The pulp is flesh-colored, sweet and grateful.

Lately another species has been spoken of very favorably. The fruit is of a deep claret color; the pulp is sweet, and slightly acid. The shrub is highly ornamental, and may be propagated freely by cuttings, and bears at the age of eighteen months. It is a native of South America, and has an external texture resembling the fig—its pulp, a strawberry. It has received the name of *Psidium cutleyanum*. It is considered a valuable addition to stone fruits. It produces two crops in a year.

These plants are propagated from seeds, which, when brought over in the entire fruit, gathered fully ripe, will more certainly succeed. In summer they will require plenty of water. It flowers, in favorable, warm locations, all the year, and will produce fruit the third year.

The fruit of the white Guava is not larger than a middling gooseberry, but when ripe, has a very strong aromatic flavor. The different sorts are much eaten in the West Indies, both by men and beasts, and the seeds that become scattered, grow whereby the trees are spread over the ground, where they are permitted to stand. This fruit is rather astringent, and nearly of the same quality as the pomegranate, hence it should be avoided by persons of a constipated habit.

The *Psidium pyrifera* bears the white or pear-shaped fruit; and the *Psidium pomiferum*, the red, or apple shaped pear.

The Alligator Pear (Laurus Persea)

grows upon a tree about the size of a common apple tree. It is a native of the West Indies. The fruit, which is the size of a large pear, is considered the most delicious in the world—so say the inhabitants of the West Indies, and the best authorities in books on Tropical fruits; but allowance in these things must be made for different palates. *De gustibus non est disputandum*, is a common and true saying.

The fruit contains a kernel, enclosed in a soft rind; and the yellow pulp, which is firm, has the delicate, rich flavor of the peach, but is said to be infinitely more grateful. This must be a nectar, then, for the gods, to use a strong term. It is sometimes called "vegetable marrow," and is eaten with pepper and salt. It appears that it is necessary, on account of the richness of the pulp, to apply some spice or acid; and thus lime-juice is also frequently added to it, mixed with sugar.

Of the three kinds—the red, the purple and the green—the latter is the best. The fruit is eaten with avidity, not only by man and beast, but by birds and also insects.

The Mummee Sapota, or Bully Berry, I have briefly described, in No. 19 of the Press. It is not a fruit of much importance.

The Mummee Americana

grows to a very large tree in the Tropics. The fruit is yellow, rather like a large russet apple. The pulp, under a skin easily peeled, is, when ripe, of a deep yellow color, resembling that of the finest apricot, and of considerable consistency. It is very fragrant, and is considered to have, by all accounts, a delicious flavor. It is eaten raw alone, or cut in slices, with wine and sugar, like the pine-apple. It is accounted one of the best native fruits they have in the West Indies, although for weak stomachs it is not thought to be very healthful. It has been grown in hot-houses in England, since 1739; I saw it at Kew in 1821, and also at the Duke of Devonshire's, in Derbyshire.

The Pine Apple.

I need not speak of the Pine Apple (*Bromelia* family), properly called *anas*, this fruit being well known, as well as its cultivation. I will merely observe, that its

original habitat is not exactly known, but, of course, somewhere within the Tropics.

The Pomegranate (*Punica granatum*),

is also pretty well known in some parts of the country, not far even from San Francisco. Its fruit is ripened on a ranch near Davisville, and also in that warm location for fruits and vegetables, Pleasant valley. This tree is rather low, being but about 15 to 20 feet in height. The calyx of its beautiful flowers is of a fine red color, and the petals are a brilliant scarlet, forming a most impressive and showy contrast with its fine green foliage, about the month of May, here. There is a succession of these strikingly lovely flowers from that month to September. The fruit ripens in October. It is one of the most ancient of fruits, and is described by Moses. It is remarkably ornamental, as a tree, flower and fruit. The pulp is slightly astringent, unless it is fully ripe. Its juice is very refreshing. It ought to be much cultivated in our southern counties, as well as in the warm valleys of the more northern parts of the State.

THE BEST PAYING FRUITS.

As the season is approaching for the transplanting of fruit trees, bushes, and vines from the nursery to the orchard or grounds they are to occupy, a few words on the comparative value of some of the more prominent market fruits, to those who contemplate the purchase of trees and vines, may be found of interest to some who may not have given to the subject but a casual thought.

Our views on the subject are based upon a close observation of the effect of certain fruits, thrown upon the market of San Francisco, during the last five years. There are certain fruits that are quickly perishable, others that can be kept a longer time, some will bear transportation with but little injury, others will not.

Some fruiterers are situated so that their products can reach the best markets daily, and so near to large cities that any amount of help for gathering a large crop of ripening fruit can always be secured. These and other conditions and especially the demand, should all have their weight in determining the kinds of fruits to be cultivated.

It is a very common occurrence to see some of our best fruits among the varieties of apples, pears, peaches, and strawberries, so plentiful that they but little more than pay the cost of cultivation, to say nothing of harvesting, and sometimes perishing by tons for lack of consumers at remunerative prices.

But of the fall and winter apples, who ever heard of their being too many Bell-flowers or Roxbury Russetts, and a few other good winter varieties of apples, all of which can be marketed for weeks or even months before maturity. And among the pears, although the Bartlett is considered the best among all the summer pears, with very many persons, for all the purposes of home market as well as shipment eastwardly, there are a few of the best winter pears that, considering the certain annual yield, the length of time they can remain on the tree without detriment to their keeping qualities, their firmness and consequent adaptation to distant transportation, all go to show the general superiority and value of the winter fruits over the more perishable summer ones for sure and profitable results.

Almonds are a certain crop, in all favorable localities, yielding good results. You can almost take your own time in gathering them as there is nothing perishable about them; they can be kept any length of time, and you have the world for a market.

The German Prune is one of the most prolific and regular annual bearers among all the stone fruits, and any quantity the markets cannot dispose of in a ripe state from the tree, can be, under our almost tropical sun and cloudless skies, so easily converted into the dried prune of commerce as to secure from decay or loss every

pound of the most plentiful crop that can be produced.

Among the small fruits that by some may be ranked among the quickly perishable, is the currant; and yet they can be grown by the acre with a certainty of good profits.

Unlike many other of the small fruits, they can remain much longer on the bush after ripening, admitting of a longer season for gathering; and if the markets will not bear them all at remunerative prices, they can be made in large or small quantities daily into wine of excellent quality, and of which the market never have enough for the demand.

Cranberries are a long-keeping fruit, and the demand extends through the whole year; they bear any amount of transportation or handling. But only those who can secure the proper soil can hope to derive a large profit from their culture. Clean sand, six inches or more in depth, an even surface and a plentiful supply of water are the chief requisites for a cranberry field.

Gooseberries are reliable, because they can be sold green from the time they are half grown till they attain full size, will bear transportation well, and if not bringing full prices, can be easily and profitably canned, in which state they are always saleable at high prices.

In a future number we may enlarge upon our list of paying fruits, adding thereto some of the nut-bearing trees and certain vegetables that having been made a speciality by careful horticulturists have paid enormous profits over the more common fruits and vegetables.

California Horticultural Society.

At a meeting of the California Horticultural Society held on Saturday last, the following officers were elected for the ensuing year: President, H. N. Bolander; Vice-President, E. J. Hooper; Secretary, F. A. Miller; Treasurer, E. L. Reimer. Trustees, E. L. Reimer, Charles Stephens and F. Luderhman.

E. J. Hooper was elected a life member. Two new members were elected and the remaining section of the revised constitution, were adopted. Professor Bolander gave notice that at the next meeting he would give a lecture on "California Shrubs." The next Horticultural Exhibition will be held in May next, to open during the second week of said month, when the finest display of flowering plants ever witnessed here may be expected.

For the convenience of the public, and for the protection of good and reliable gardeners, the Secretary will keep a record of trustworthy and responsible gardeners, and applications for such men will receive proper attention during the office hours of the Secretary, who may be found every day, from two to four o'clock, P. M., at the rooms of the Society, room No. 9, second floor, No. 266 Clay street, where he will also receive applications for membership and give such information as may be desired.

ENGLISH PATENTS.—According to the British Commissioners of Patents Journal, eight British patents were granted to residents of San Francisco in the year 1867; twelve in 1868; and thirteen in 1869—making a total for the three years of thirty-three. Average number, therefore, per year, eleven.

RAILWAY CONSOLIDATION IN ENGLAND.—The English are not much behind our people in railway consolidations. A consolidation has just been effected of 2,000 miles of road and \$400,000,000 of capital. The company expects to do one-fifth of the entire railway business of the kingdom.

ACCORDING to recent and valuable estimates, our globe has a population of 1,350,200,000. Of this, America has 72,800,000; Europe, 287,000,000; Asia, 498,600,000; Africa, 188,000,000; Australia and Polynesia, 3,000,000. Languages spoken, 3,600; religious sects, 1,000.

POULTRY NOTES.

Turkeys.

There is no doubt that turkeys, properly managed, are among the most profitable of live stock, and it is difficult to account for their absence from many places where they could be advantageously reared. Turkeys consume a larger proportion of green food than fowls, and grow into size almost without cost; when fattened, they realize a high price in the market, and, as they are chiefly in demand in cold weather, can be sent to distant places without risk of loss. Many farmers and farmers' wives, however, dread engaging in the rearing of turkeys, believing them to be exceedingly delicate when young. I believe properly-managed turkeys are not more difficult to rear than common fowls, and I am quite certain they can be raised to much greater profit. My own method of procedure is to follow Nature as far as possible. I make my turkey nests on the ground; or if in a paved house; in large shallow boxes, half-filled with mould that can be damped at intervals. The hens, unless they come off regularly, are lifted off to feed, and then supplied with grain with a liberal hand. When the young ones are hatched, they are left undisturbed under the hen until the next day. No attempt is made to cram them—an absurd practice, which interferes most injuriously with the due digestion of the yolk that is absorbed into the intestines at birth, and constitutes all the food required for 24 or 30 hours after hatching. The first food given them is egg beaten up with an equal bulk of milk, and baked into a soft custard; this is alternated with crumbled bread mixed with milk, to which oatmeal is added in a gradually increasing proportion. Ants' eggs are given, if I can get them; but if not, the custard is continued for a fortnight or three weeks. Quite as important as any other part of the dietary of young turkeys is the supply of green food, and many persons chop up nettles, onions, etc., with the meal; but if young turkeys are watched when grazing, it will be observed that they prefer eating bitter herbs belonging to the natural family Compositae, or compound flowered plants, such as the dandelion, etc. At three weeks old a dozen turkey chicks will eat four or five large lettuces in a day, and they even seem to prefer them when running to seed, at which time there is abundance of milky juice in the plants. At the age of a month, they will begin to peck a few grains of wheat or barley; but bread and milk and meal should form the staple of their food for the first two or three months of their lives. Most persons say that young turkeys are particularly delicate when they are "shooting the red." This is not to be wondered at when it is remembered that they are generally put on whole grain, without milk, long before they arrive at that age, and suffer accordingly. Another point of the highest importance in feeding turkeys, or young birds of any kind, is the hour at which they get their first repast. In summer it is daylight at 4 o'clock in the morning. If the birds have their first meal deferred until 6 or 7 o'clock, they have been hungry for two or three hours, and suffer very much. To be successful in rearing these, and any other young birds, they must either be supplied over night with their first meal, or the poultry maid must be up with the lark. There is no better plan than putting the hen and chicks, for the first month or two, in a closely-wired aviary at night, which is open to the early sun; and lettuce and a good supply of soft food can be put under a coop, so that the hen cannot eat it, and there will be found but little left an hour after daybreak. If the young turkeys are well fed from the first, they can be fattened by shutting them up for a fortnight or three weeks in any small sheltered court, and feeding them on meal and milk; and they ought to produce from 10d. to 1s. per lb., live weight, at Christmas. Selling them direct to the consumer, if possible, will be found a far more profitable proceeding than consigning them to a salesman, against whom the producer has not the slightest check.—*Cor. Agricultural Gazette.*

COLOR OF YELLOW BIRCHEN HEN.—The true Yellow Birchen hen has yellow or daw eyes, and yellow legs like the cock. The general color of the feathers is a yellowish grey, with a strong tinge of yellowish cream color, light rather than dark; some of the margins of the feathers on the body are of a whitish cream color also. Thighs same as the breast. Tail blackish, a little marked with grey at the base. Comb and face red. Eggs of a yellowish tinge, and never white or pinkish.

USEFUL INFORMATION.

Position and Motion.

Some interesting facts regarding standing, walking, and lying down are grouped in a lecture by Prof. Burt G. Wilder. In man the great toe is the essential part of the foot in standing and walking. In the ape this is a thumb, standing out from the side of the foot, and has no power of supporting or propelling. The ape cannot carry himself erect. But put man on all fours, like an ape, and the enormous disadvantage appears at once. The head hangs as a great weight, with no adequate muscles to support it. The curve of the back is such that the knees touch the ground, and we have to raise the thighs in order to make the feet touch the ground. Man's foot is called a plantigrade foot—that is, it has the whole sole flat upon the ground. One other animal has a plantigrade foot, but he uses it in a different fashion; he lifts the whole foot together and puts it down flat, while the man strikes with the heel first and rolls forward upon each toe alternately. The erect attitude is maintained only by a constant thought unconscious control of the muscles of the leg by the brain. The length of the man is greater when he is lying flat than his height when he is standing. In the former case the body stretches itself; in the latter it settles down upon itself. A man is shorter when standing on one foot alone. He is shorter again when walking. For this reason ladies' skirts, which just clear the ground when they are standing, drag on the pavement as soon as they begin to walk. The different parts of the body are bent upon each other, and also swing from one side to the other. A very singular fact connected with walking is that one side of the body tends to outwalk the other. Persons with their eyes shut cannot walk in a straight line for any length of time; and persons who are lost in the woods or prairies are sure to travel in a circle. There is a greater tendency to wander off to the right than to the left.

DRYING-OIL SUBSTITUTE.—A composition for mixing with white-lead and other colors, to form a paint in lieu of linseed oil, turpentine, and the usual driers, has been lately brought out. The advantages claimed for this vehicle are, it dries very quickly. In less than half an hour after application it is sufficiently dry and hard to receive another coat. It is perfectly inodorous. A room can be used the same day it is painted. It is peculiarly adapted for painting offices, counting-houses, stairs, ships' cabins, and all work where time is an object. It cleans readily, and is not affected by soap or alkalis. It is economical in use, though the composition is in itself necessarily from the materials employed, dearer than linseed oil. In consequence of the body contained in the composition, three coats of paint mixed with it are equal to four of ordinary paint; and the great saving in the time always lost by workmen in going from one job to another, or waiting until such paint is dry, is more than sufficient compensation for the greater original cost. For example a street-door, which requires the attendance of a workman on five several days to complete the painting and varnishing, can by the use of this composition, be painted with four coats and varnished in one day. The material consists of methylated spirit, shellac, and castor-oil.—*London Artizan.*

SMOTHERING A BURNING MINE.—Some months ago a coal mine at Mauch Chunk, Pa., caught fire. The ordinary appliances for extinguishing such fires failing, the company has adopted the plan of a chemist who has undertaken to extinguish it with ammoniacal gas. The entrance to the mine has been closed up, and in front of it works have been constructed for generating the gas and forcing it into the mine. Two barrels of sal-ammoniac per day are used, and from the reports made during our visit, it is believed that the experiment will be a complete success, and that in a very short time the fire will be completely extinct. Such success will be most important in future cases of fire in coal mines; for there are cases where the fire has lasted for many years, as in the mine at Summit Hill, which will probably not be extinct until the whole vein is burned out. *Ec.*

The forests are dying out in certain parts of Virginia. The chestnut trees have already submitted to some deleterious agency, and their growth is nearly exhausted; and this year the oak, and in fact all the trees of the forest in certain sections are dying. No explanation of this disastrous visitation has yet been given.

HOW A PERSON FEELS AT THE INSTANT OF A RAILROAD COLLISION.—Col. W. W. Bennet was in the street railroad car which was recently run over, in Jersey City, by the New Jersey railroad train. The locomotive was going at the rate of 30 miles an hour when it struck the car a little quartering, lifting it some three feet from the track and smashing it into a thousand pieces. The car was crowded, and contained from 36 to 40 persons, two-thirds of whom were ladies. The Colonel, who was sitting near the door, perceiving there was no escape awaited the shock calmly. He says:—"Immediately the crash came, but I felt no movement of my body on the car, nor any pain; I became insensible; when I recovered I found myself on the cow-catcher of the locomotive, pushing toward Philadelphia; I was lying on my back with a body under me and a body over me, and my left hand was grasping a part of the locomotive; when the engine stopped, I crossed to the north side of the track, and started home with my face covered with blood; as I crossed the walk I saw the body of a man on the ground, and I tried to call for help but could not speak; I felt as if I was under the influence of a hideous dream."

Another person's experience was given thus:—"I heard a peculiar, rumbling sound, and afterwards terrible shrieks; as swift as thought came a crash of iron, glass and wood. I was lifted, as it were, and thrown, I knew not where; I struck the mud, and then knew that I was out of the car; I found I was in the cavity between the upper and lower tracks, and as I was lying in this hole the train was passing over me; I did not dare to stir lest I should lose a limb; I found that with the exception of slight bruises about the thighs I was uninjured; I was thrown 20 feet from the car."

ANCIENT MODE OF KEEPING TIME.—Bowls were used at a very early day for measuring time, from which water, drop by drop, was discharged through a small aperture. Such bowls were called water-clocks—*clepsydræ*. It was then observed how much water from such a bowl or cask, from sunrise to the shortest shadow, or noon, trickled down into another bowl placed beneath; and this time being the half of the whole solar day, was divided into six hours. Consequently, they took a sixth of the water which had trickled down, poured it into the upper bowl, and, this discharged, one hour had expired. But afterward a more convenient arrangement was made. They observed how high the water at each hour rose in the lower bowl, marked these points, and counted them, thus finding out how many hours there were till sunrise. With the Chinese, water-clocks, or *clepsydræ*, are very old. They used a round vessel, filled with water, with a little hole in the bottom, which was placed upon another vessel. When the water in the upper vessel pressed down into the lower vessel, it subsided by degrees, announcing thereby the parts of time elapsed. The Babylonians are said to have used such instruments; from them the Greeks of Asia Minor got them, at the time of King Cyrus, about the year 550 before Christ. But the Romans did not get the first water-clock before the year 160 before Christ.

HOW FORESTS ARE PRESERVED IN EUROPE. It is estimated that there yet remain in France, 2,700,000 acres of State forest, the revenue of which previous to the recent war, was \$8,700,000. Bavaria has about 2,000,000 acres of forest; Prussia, as it existed before the war, had upwards of 5,000,000 acres. In each of these countries, schools of forestry, under State control, are supported, in which men are trained in the scientific and economical management of the State timber-lands.

SUBSTITUTE FOR GUTTA-PERCHA.—A juice extracted from a shrub which abounds in Guinea under the name of *boleta*, is found, according to report, to be superior for many purposes to gutta-percha. The juice coagulates quickly when exposed to the air, and is without any disagreeable odor. When worked up it is more flexible than gutta-percha, while it appears to possess equal strength and durability.

The word Canada had a singular origin. When the Spaniards first visited the country they found neither gold nor silver, and went off saying "A Canadada," (there is nothing here). When the French came, the Indians tried to frighten them off by repeating it over and over, but the new comers took it for the name of the land, and so called it Canada.

GOOD HEALTH.

How to Secure Long Life.

Dr. Dio Lewis recommends that all who would secure a clear, fresh skin, bright eye, active limbs, a quick brain, and a cheerful, pleasant temper, and thus enjoy a long life, should live about as follows:

Breakfast.

Oat meal porridge, with milk and sugar. Or, Graham mush, with a little good syrup.

Or, cracked wheat, with milk and sugar. Or, baked potatoes with bread and butter.

Or, beef steak or mutton chop, with baked potatoes and bread and butter.

If you are thin, and need fat, use the first three; if you are too fat, use the last named two.

Drink cold water, or a little weak coffee.

Dinner.

Beef or mutton, roasted or stewed, with any vegetables you may like (though tomatoes should be used very sparingly), good bread and butter, and close the meal with a glass of weak lemonade. Eat no dessert, unless it be a little fruit, and eat nothing more until the next morning.

There is no rule in regard to diet about which I am so fixed in my convictions, as that nothing should be eaten after dinner, and I think that the dinner should be taken early in the day; not later, if it can be so managed, than two o'clock. In regard to the precise hour for the dinner, I am not so clear, though for myself one o'clock is the best hour; but in reference to the omission of the third meal, I have, after long observation no doubt whatever.

Hundreds of persons have come to me with indigestion in some of its many forms and have experienced such relief in a single week from omitting the supper, that I have, for a number of years, depended upon this point in the diet as the best item in my prescriptions for indigestion. I have never met one person suffering from indigestion, who was not greatly relieved at once, by omitting the third meal.

Cooked fruit is best for persons of weak digestion. I have met hundreds of people who would digest a large beef steak without a pang, but who could not manage a single uncooked apple.

I think certain dietetic reformers have somewhat overrated the value of fruit.

Avoid cake, pie, all sweetmeats, nuts, raisins and candies.

Manage your stomach as above, and at the end of ten years you will look back upon these table habits as the source of great advantages and happiness.

For thirty years I have been a constant and careful observer (I have no hobbies about diet), and in the light of my own experience and these long observations, I assure you that the table of habits I have advised, are vital to your health and happiness.

Pimples, blotches, yellow spots, nasal catarrh, biliousness, liver torpidity, constipation, sleepiness, dullness, low spirits, and many other common affections would generally disappear with the adoption of these rules.

[We will add, for the satisfaction of our readers, that Dr. Lewis, who here intimates that he practices what he preaches, presents in his own person about as fine an example of genial good health and wide-awake-tiveness as one ever meets.]

INJURIOUS EFFECTS OF TURPENTINE.—The *Manufacturer and Builder* says:—"Experience has taught that the so-called lead-paralysis, common among painters in the form of a loss of motion of the wrist joints, is chiefly produced by the habit of washing the hands in turpentine. It is probable that it is not the turpentine alone which produces this fatal result, but chiefly the particles of lead or zinc paint on the hands, which, by the turpentine, are brought in a condition to penetrate the skin more readily and to be absorbed; therefore, painters should avoid, as much as possible, the use of turpentine for washing the hands."

CURIOUS FRAUD.—The *Boston Journal of Chemistry* says, that "German saffron," which has been for a long time quite scarce and high, has recently been largely substituted by some enterprising cheat, who has produced a similar article for logwood and fustic moistened with heavy syrup, so ingeniously prepared as to deceive some of the most expert druggists. The amount upon the market is thought to be quite large, and it becomes druggists to examine closely this article whenever they purchase.

Don't Rock the Cradle.

Even before the babe has seen the light, or very soon thereafter, has this instrument of unnatural oscillatory motion been prepared for its reception, having been deemed necessary, and for what? Mothers, did you ever ponder on the philosophy of this almost constant rocking of your child during its sleeping hours, unless you too are sleeping and cannot give the cradle a jog? You reply that you have thought no farther than this—that you have so much to do that it is a great object to keep the baby sleeping as long as possible, judging that sleep cannot harm the child, and the relief to you is so great.

You are part right. All sleep not super-induced by narcotics or by this soporific motion tends to good; farther than this to harm. The mother's arms while nursing her infant at stated, regular intervals, is all the cradle nature ever designed; and if it forgets its cunning and yields to the drowsy god, they quietly lay it in its little cot, supposing of course you understand that the best good of both yourself and child demands a crib by your bedside, where any little attention it may need may be readily rendered, instead of necessitating it not only to take into its tender, delicate lungs, the unhealthy emanations from the bodies of one or both of its parents, but also their magnetisms, which in far too many cases is detrimental from various causes, either the use of tobacco, poisoning every tissue, or spirituous liquors in the form of beverages or medicines. The time is slowly but surely coming when this cannot with truth be said, that parents poison their children in this manner; but it is with the present we have to deal, preparing the way for this coming time.

Leaving this phase of a very important subject for a future article, I will return to my subject—cradle rocking. "But how can this injure the child? I have always seen children rocked with no ill results," you reply. But how do you know that? Did you ever candidly weigh your child's best good against your work, or pleasure, and determine which turned the scale? I fear not in the child's favor, if you still persist in keeping one foot on the rocker, while the hands are busy, mayhap in fashioning and ornamenting its clothes to please the eye of the beholder, instead of making them for comfort, which still may be tasty. Reflect upon the probable effect on your brain, the seat of thought and reflection, of this long-continued motion, such as is given the child in rocking, and think you, it would tend to any concentration, any strengthening of power? Nay, but the reverse, and the brain of the infant is far more susceptible to the disturbance of its forces than the adult, and needs but to expand and grow normally in a quiet sleep induced by a healthy action of nature's forces. Mothers, study how to thus create healthy bodies, then the sleep will be quiet and refreshing, and your days and nights glide smoothly on.—*Central City Gazette.*

A SINGULAR CASE.—The *Lewiston Journal* says: Dr. Bill has in his possession a diphtheria membrane, removed from the throat of a girl of fifteen, who was attacked with the severest type of this terrible disease. The false membrane is about three inches in length, completely preserved, and is a perfect cast of the air passage from which it came. The film is a thick, white, tough, leathery substance, presenting the well known characteristics observed in attacks of this disease. The girl and her sister came to this city from the eastern part of the State to work in the mills, and was unwell on her arrival. She went to work one day, however, when she was taken down ill with diphtheria. The usual treatment in such cases was resorted to, but the patient grew worse, and breathed with great difficulty. On Sunday she had a violent fit of coughing, and seemed to be strangling. The nurse who had charge of her had the presence of mind to put her finger down the girl's throat, and seized the end of something which appeared loose there, and pulled out what proved to be the false membrane of which we have spoken. The presence of mind of the nurse saved the girl, who is recovering.

THE MAGIC LANTERN IN DISEASE.—The magic lantern has been successfully applied in London to the study of diseases of the skin, by Dr. Balmanno Squire. A transparent photograph of the patient is taken, then placed in a magic lantern; a strong hydro-oxygen light casts the figure enlarged on a white sheet, and in this way the smallest details are brought out with astonishing minuteness.



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SAN FRANCISCO:

Saturday, Dec. 2, 1871.

Our Weekly Crop.

We this week present our friends with a choice selection of "Montana Vegetables," which our artist has depicted faithfully to Nature; after examining which, and passing into our library we find upon the table some interesting letters, among which are "Notes of Travel in Santa Clara County," and one upon "The Sweet Potato and How to Keep It." "Science in Agriculture" is farther considered, also some interesting notes upon "Live Stock" in general and "Celebrated Trotting Horses" in particular. Our "Agricultural Notes" are full and interesting; while our Horticultural Department contains some farther valuable hints about "Tropical Fruits," etc. Passing through the "Poultry Yard," and taking a look for a moment at our usual budget of "Useful Information" and facts about "Good Health," we come to the important questions of the season—the consideration of the more general production of "Early Vegetables" and the importance of a more universal "Planting of Trees" in the State.

While paying a short visit to the "Sacramento Sugarie," we encounter a somewhat unusual apparition, which, on close examination, we find is intimately connected with the ubiquitous "Jones's Thanksgiving Dinner," a subject which naturally introduces us to the "Home Circle" and various matters connected with "Domestic Industry," etc. We conclude our weekly gossip with a few words about "The Incoming Legislature," a showing of a "Good Cause for Thanksgiving," a chat with some of our correspondents, a look into the "Markets," and then hurry off to our Thanksgiving Dinner.

An Extra Edition.

We this week print a large number of extra copies of the PACIFIC RURAL. Besides supplying all members of the Legislature and State officers, several hundred copies will be sent to prominent citizens in Montana, in addition to our large list of regular subscribers in that prosperous Territory. We shall also send a large number to business men in the various Eastern States. Our weekly circulation increases in steady and rapid ratio, and as a consequence we are stimulated to do our best in furnishing a good paper, and to extend its circulation by every available and honest means. From now till the first of January, we shall issue a liberal number of free sample copies. Parties intending to advertise will do well to send in their orders at once.

It is said that there are six thousand less cabinet makers in Paris now than there were at the commencement of the recent war, and that furniture carvers are totally without employment.

Farmers, write for your paper.

Early Vegetables.

Who that has a family to support, and that cares for the comfort and health of that family, would be without early vegetables? As the winter is passing away, and the spring approaches, we all wish for, and our systems crave, something fresh-grown and green. We want something from the vegetable garden—some early peas, radishes, lettuce, cabbage, beets, or carrots. Something of this kind on the table, fresh from the garden, at the back door, puts us in good humor with ourselves and with our whole household, for it contributes not only to the appetites, but to the health as well, of every member of that household.

Who then that has a piece of land of sufficient size, whether he lives in the city or country, will not now at the proper time of year, prepare that piece of land in a proper manner, and plant it with appropriate winter-growing vegetables. Our California winters are so mild and pleasant that many of the most desirable kinds of vegetables can be grown in the open air, in as great a perfection during the winter months as later in the season.

And now that the rains have set in with a fair promise of abundant continuance, the present is a good time to prepare the land and plant these seeds. For winter cultivation, work up the soil lightly into rolling beds so that the water will run off, manure the surface well with barn-yard manure and it is ready to plant. Turnips planted now on soil thus prepared, will be ready to pull in February, so will radishes, lettuce, beets and carrots. Peas may not be ready to pick quite so soon; but they will grow all winter, and as soon as the weather becomes warm in the spring the blossoms will appear and the pods and delicious green peas will very soon follow.

Potatoes also may be planted now, and by covering the surface of the ground with fresh stable manure mixed with straw, they will soon come up and grow well. By taking a little pains to protect the tops from the frost by throwing on stable litter when the weather is cold, they may be kept growing all winter, and in early spring you may uncover nice tender new potatoes that will make the month water.

Onions, too, if started now, will be ready to pull very early. Our Chinese and other foreign market gardeners about all our towns, understand these things, and are busily engaged in their gardens, and before we can realize it, unless we do as they do, we shall be tempted by the "Chinese vegetable man" at our door with "nice fresh vegetables" for sale.

If you live in the town, and would resist this temptation, and at the same time enjoy better vegetables than he will bring you, we would say go to work in the garden. If you live in the country and are a farmer and have not already commenced your vegetable garden, we would say do not neglect longer one of the most important works of the farm—the making and planting of a good vegetable garden. If you have time and can spare the trifling expense we would by all means recommend that you introduce the system of underground irrigation, explained in our last number, and some of the advantages of which are set forth in another column of this issue.

THE CHINCH BUG PEST IN CALIFORNIA.—The Chico Enterprise, says this pest has made its appearance in Butte county. Last season, on the farm belonging to Harmon Bay, millions of them could be seen crawling from the sheaves of wheat and seeking the fence-lines of the field. They must have made their entrance too late for damage, but we may justly fear their ravages the ensuing season.

ON FILE.—Notes from Montana; Cotton in California; Letter from S. B. H.; Communication from C. E. H., Los Angeles.

PLANT TREES.

The rainy season is now at hand, and with it comes the time for planting trees, whether fruit, shade, or forest trees. And here we would say to every man or woman who owns a piece of land in city, town, or county, upon which there are not already a sufficient number of trees growing, you cannot spend your time and money in a better purpose or in a more profitable manner than in planting trees upon that land.

Improving Town Lots.

If you own and occupy a lot in town you cannot improve or ornament it in any other way, so easily and so cheaply, as by planting fruit trees of choice and select varieties upon it, and appropriate shade trees on the sidewalk in front of it. If you do not occupy it but are keeping it for future use, with the intention of making it one day your homestead, and building upon it your family mansion in which to rear your children, then by all means, and without delay, plant trees in every available place upon it, as well as on the sidewalk in front of it, for nothing will so bind to it your affections and give to it a home interest as trees planted and cultivated by your own hands or even under your direction. If you have town or outside city lots for sale, and are waiting for the extension of the town or city in that direction so as to enhance their value, then you can in no way induce that improvement or extension so certainly and rapidly, and at the same time so cheaply as by planting trees upon them, and thus giving them and the vicinity in which they are located an attractive and enterprising appearance.

Trees an Inducement to Purchasers.

If you wish to advertise your lots so as to find a purchaser at a satisfactory price, the cheapest and most effective means of doing this, is by planting trees upon them, and thus improving and ornamenting them in a way to attract the attention of those who are looking for building lots and homesteads. You can then offer and recommend the ornamentation and improvement already made as an inducement to your purchasers; and who does not know that such improvement often constitutes the greatest inducement that can be offered for the purchase of a building spot in this country. The greatest objection to planting trees, in the minds of many, is the time it requires for them to grow to a suitable size to become useful or ornamental, but when once planted, in this country, we are always surprised at the rapidity with which they come forward. So when a man wishes to purchase a lot on which to make a residence and homestead for his family, and seeing two places equal in all respects, but one already tastefully planted with well selected fruit and ornamental trees in a good thrifty growing condition, while the other is bare and naked presenting no immediate or prospective attractions, we will not be long in deciding which of the two lots to buy, or in determining to pay a liberal enhanced price for the former on account of the improvements already made.

Benefits of Trees on Farms.

If you own a farm in the country, and wish to render that farm valuable and attractive to yourself and family, then plant trees upon it. Plant trees about your dwelling house and other buildings to induce a circulation of the air in the hot summer days and to protect them from the heated rays of the autumn sun as well as to shield them from the violent winds and driving storms of the winter season.

How many a farmer's boy, aye, and how many a farmer's girl, too, would have been saved from the dangers and temptations of a city life, which have proved their destruction, and the shame of their family and parents, if more pains had been taken to ornament and render attractive and instructive the rural homes of their childhood. Would a farmer have plenty of timber with which to construct the buildings and fences which future necessities

on his farm may demand, without paying for it an exorbitant price, let him now, like a prudent man, set apart a few acres of his land for the cultivation of an artificial forest of useful forest trees. Wheat, barley, corn, hay, indeed no other product, to which he can devote that few acres, will afford him so much real satisfaction or return to him so much real profit in the long run, as a well selected and well cultivated forest.

Country Property.

If you own lands in the country and wish to sell them, whether in large or small quantities, then we would say plant trees upon them, as the best means of attracting to them the attention of all parties who have had the prudence and foresight to lay up money enough to pay for them with. These trees will give such lands an increased value, greater in proportion to the amount of the necessary outlay, than any other improvement you can place upon them. When you have planted out trees on such lands and started, say on each one hundred and sixty acres, or on each three hundred and twenty, a small forest of from ten to twenty acres, you are not waiting for the incidental and uncertain increase in value of such lands, by the lapse of time or the events of circumstances, but you have laid the foundation of a positive certain increase in value, and you will be as sure to reap the benefits of that increased value as that the day continues to follow the night. Having done your part, Nature will take up her work where you left off, and will surely do her part. These forests will grow and increase in value, and increase the value of your lands in a multitude of ways, while you wake and while you sleep.

Want of Trees in California.

There is no State in the Union suffering so much in various ways from the want of a proper proportion between the timbered and untimbered lands as California. What, but a want of this proportion, what but a want of growing timber or forests to shield the surface of the earth from the immediate rays of the summer sun, throughout our large open valleys, causes the withering drouths and the life-destroying northers to which those valleys are so frequently subjected! To what, but this lack of timber to collect the humidity of the atmosphere and to break the rain-bearing clouds can be attributed the great disparity between the amount of rainfall, for the past two or three seasons on the open and untimbered valleys of the State, and the adjoining timber-covered foothills and mountains! The very nakedness of the earth's surface in these valleys, becomes the cause which reproduces this same nakedness from year to year. Nature in this case has not the power to correct itself or change its tendencies. It must be done if done at all by artificial means, and Nature itself indicates what those means must be—the planting of trees—the cultivation of artificial forests. Every consideration of private and public policy are in favor of this system. We would say then, as we said at the beginning—Plant Trees.

The Sacramento Sugarie a Success.

It is with a great deal of satisfaction that we are able to announce the entire success of the Sacramento Beet Sugar Company in adopting the Robert's Diffusion process for the extraction of the saccharine principle from beets.

It seems now only surprising that there could ever have been a doubt on the subject of its success over all the old methods, when it is so well proven that within the last six years, since the discovery of the process, no less than one hundred and thirty of the old beet sugaries of Europe have discarded the centrifugal as well as pressure and other processes, for this new one.

It is as clear as experiment can make it, that the refuse or exhausted pulp by the centrifugal process when thrown aside, as food for animals, contains from three to five per cent. of sugar; whilst that by the diffusion process actually contains less than one per cent., at the same time that more gluten and starch is left in the pulp by diffusion than by any other process, making it a superior food for stock.

The Sacramento sugarie at a cost of many thousand dollars less than a factory of the same capacity by any other process, is a perfect model of neatness and simplicity.

ity to one understanding its operation, but to the uninitiated it seems like complexity complexed.

The factory has a capacity of seventy-five tons per day; but owing to the inexperience of the new hands necessarily employed, only fifty tons per day are at present turned off, yielding nine per cent., or four and a half tons of sugar every 24 hours.

The quality of the sugar is unsurpassed, being a pure white of unalloyed sweetness. The difference between the two processes of manufacture is strikingly apparent in the operation of defecation, or the purify-

JONES'S THANKSGIVING DINNER.

Mr. Jones had only been married about two years and this was his second Thanksgiving. His first dinner had been an expensive one and it wasn't such a success after all. So after discussing the question of woman's extravagance, he came to the conclusion that he would engineer this one on his own hook, on learning which, his wife appeared a little surprised, but made no objections, for, being a fashionable lady, she was glad to get the affair off her hands. Well, Jones invited a few of his bachelor

tion no one was there whom he could ask with propriety to take his baskets and turkeys home. "Never mind," thought he, "My neighbors will see what a model family man I am, carrying my own dinner home." He experienced some little difficulty in arranging his load, being unaccustomed to carrying more than his coat or umbrella; but started on his short walk with the turkeys hung around his neck, as herewith shown, and numerous bottles sticking suggestively out of the baskets.

Meantime there had been a terrible and unlooked-for commotion in Jones' domes-

bers. Finds out her mistake as to absence of cross, when he learns what is the matter. Wife's sister comprehends the whole situation at a glance. No time to notify friends that his wife is sick. No cook-book in the house. Wife and sister helpless. Jones uncertain whether to hang up small-pox flag or hang crape on the door. Consultation of grave character in kitchen. Dinner impossible. Has some doubt as to whether he has any cause for thanksgiving. Whistle of approaching train with bachelor friends on board heard in the distance. General excitement. Relief on arrival of



JONES'S THANKSGIVING DINNER.

ing of the juice as it come from the pulp. That produced by rasping the beets and extraction by centrifugals, throws up a scum from eight to ten inches thick; whilst the extract obtained by diffusion of the cut—not rasped—beets, is less than one-third the quantity.

This alone is proof positive of the purity of the saccharine extract obtained by diffusion over that by the centrifugal or any other known process.

It will be remembered by many who have been waiting with much interest the result of this experiment with California-grown beets, that the process by diffusion is the one so strongly recommended by Mr. Wadsworth—a large stockholder in the Sacramento company—on his return from Europe one year ago; and the successful result now obtained, is a satisfactory evidence of his correct judgment in the matter, and must be highly pleasing and satisfactory to him.

friends, telling them that they should see how he had improved in domestic matters and what a splendid purveyor he had become since he moved into the country. The night before Thanksgiving, Jones didn't come home—an uncommon thing with him. He had missed the train in his excitement at the unusual proceeding of running round after the needful articles, and to make the matter worse he hadn't any idea what ought to be bought except a pair of turkeys, and, further he hadn't troubled himself till he began his peregrinations. Another thing that bothered him was, whether what he was buying was not already in the house.

He delayed his departure for home in the morning until the 10:30 train, arriving there about 12. When he reached the sta-

tic circle, unknown to him, as he came triumphantly up the road followed by a little black dog sniffing at the contents of a bottle of wine which had been broken, and was making a ready track behind him. Biddy, becoming suddenly offended in the morning from some unknown cause, had declined further service, and no "Chinee" being available, and no new girl to be had at that late hour, Mrs. J. was in a state of despair, and was going to get the assistance of some of her neighbors when her husband met her at the door. Wife was very much astonished at the extent of preparation, while her husband's appearance suddenly reminds her of the ancient manner—

"Instead of the cross, the albatross
About his neck was hung,"

only he discounted that individual in num-

unsophisticated young female of butter-making propensities, who volunteers to cook dinner. Exultation of Jones. Arrival of friends. Dinner a grand success after all. Exit on last train of bachelor friends, in high state of conviviality at attempt of one of them to tell Mrs. J. that the vicinity of her house was "truly rural." Private nocturnal conclusion on part of Jones, Esq., that hereafter his wife should "run" the dinner without his assistance in other than pecuniary matters.

THE Old Colony Railroad in Massachusetts in 1868 gave a free pass to all who would build houses in the village of Wollaston Hights. The result has been that the paying passengers from that station to and from Boston are more than ten times as many now as three years ago.



Baby Fingers.

By MRS. RICHARD GRANT WHITE.

Ten fat little fingers, so taper and neat!
Ten fat little fingers, so rosy and sweet!
Eagerly reaching for all that comes near.
Now poking your eyes out, now pulling your hair,
Smoothing and patting with velvet-like touch;
Then digging your cheeks with a mischievous clutch;
Gently waving good-by with infantile grace,
Then dragging your bonnet down over your face.
Biting pat-a-cake pat-a-cake, slow and sedate,
Then tearing your book in a furious rate,
Gravely holding them out, like a king, to be kissed,
Then thumping the window with tightly closed fist;
Now lying asleep, all dimpled and warm,
On the white cradle pillow, secure from all harm,
O, dear hands! how much love you unfold,
In the weak, careless clasp of those finger's soft hold!
Keep spotless, as now, through the world's evil ways,
And bless with fond care our last weariful days.

The Seed and the Flowers.

A brown and misshapen seed fell from a tall, withered vine to the ground, where it alighted among a bevy of beautiful blossoms that were resting in the long grass.

The poor brown seed shrank from their haughty and disdainful glances, and remained ashamed and trembling.

"Who art thou," exclaimed the stately flowers, one and all, "that dare penetrate our favorite bower in so ragged and homely a dress?"

"I am an emblem of the past," replied the seed, meekly, "and I have alighted to rest for a time."

"An emblem of the past," reiterated the blossoms, scornfully. "Know, then, that we are the guardians of the present. Go away; we have no use for you here."

The brown seed, glad to escape such a neighborhood, was taken by a kind breath of air to the margin of a silver stream. Here it contented itself with quietly dreaming away, until its mother earth should receive it into her bosom, and when summer returned it would arise again in new beauty.

Autumn passed, and winter came with icy breath and cold fingers; the blossoms were faded and dead, but the seed was hidden in the earth. Summer came once more with golden sun rays and soft air. Awakened into renewed life after so long a trance, the blossoms unfolded their leaves and lifted their proud heads. Directly over them, and shading their delicate petals from the rays of the hot sun, grew a beautiful vine with dark-green velvet leaves, and crimson flowers.

Proud of such company, the blossoms sung praises to the kind and beautiful vine.

"Knowest thou me?" asked the vine of the blossoms.

"Ah, yes," replied the delighted blossoms, "we know thee by thy beauty, and love thee because thou shadest us from the hot sun."

"I will tell you," said the vine, mildly, as it opened its crimson flowers and shook its velvet leaves. "Long ago, when I was a poor, brown seed, ugly and misshapen, you scorned me and drove me from you; now I am rich and beautiful, and you seek my company. Know that I choose my friends where pride resteth not, and where modesty and gentleness forever reign."

Ashamed and humbled, the blossoms drooped their fair heads and spoke not, while the vine twined lovingly around its true friend, the tall tree, shaking perfume from the crimson flowers, while the sunbeams played upon the dark-green leaves.

PHYSICAL STRENGTH OF YOUNG WOMEN.—Some one asked Mrs. Cady Stanton if she thought that girls possessed the physique necessary for the wear and tear of a college course of study. Her reply is both sensible and sarcastic. "I would like to see you," said Mrs. Stanton, "take thirteen hundred young men, and lace them up, and hang ten to twenty pounds weight of clothes to their waists, perch them upon three-inch heels, cover their heads with ribbles, chignons, rats and mice, and stick a hundred hair-pins into their scalps; if they can stand all this, they can stand a little Latin and Greek."

The ill-natured *Saturday Review* says: "dress ever was and ever will be as webs spread in the way of women's righteousness. No doubt Eve frilled her apron of fig leaves before she had worn it a day."

Love lightens labor.

The Songs of Birds.

There is a beautiful propriety in the order in which singing-birds fill up the day with their pleasing harmony. The accordance between their songs and the aspect of nature, at the successive periods of the day at which they sing, is so remarkable, that one cannot but suppose it to be the result of a benevolent design. First the robin—not the lark, as has been generally imagined,—as soon as twilight has drawn an imperceptible line between night and day, begins his artless song. How sweetly does this harmonize with the soft dawning of the day! He goes on till the twinkling sunbeams begin to tell him that his notes no longer accord with the rising sun. Up starts the lark, and with him a variety of sprightly songsters, whose lively notes are in perfect correspondence with the gaiety of the morning. The general warbling continues, with now and then an interruption by the transient note of the raven, the scream of the jay, or the pert chattering of the daw. The nightingale, unwearied by the vocal exertion of the night, joins his inferiors in sound in the general harmony. The thrush is wisely perched on the summit of some lofty tree, that its piercing notes may be softened by distance before they reach the ear; while the mellow blackbird seeks the lower branches. Should the sun, having been eclipsed by a cloud, shine forth with fresh effulgence, how frequently we see the goldfinch perch on some blossomed bough, and hear its song poured forth in a strain peculiarly energetic; while the sun, full shining on his beautiful plumes, displays his golden wings and crimson crest to charming advantage. Indeed a burst of sunshine in a cloudy day, or after a heavy shower seems always to waken up a new gladness in the little musicians and incite them to an answering burst of minstrelsy. At sunset the robin again sends up his twilight song, till the still more serene hour of night sends him to his bower of rest. And now, in unison with the darkened earth and sky, no sooner is the voice of the robin hushed, then the owl sends forth his slow and solemn tones, well adapted to the serious hour.

Our Little Girls.

It is an old saying among foreigners that there is no such thing as an American child, and if it were not for a few healthy little people who care more for balls and dolls than for cigars and beaux, we would all be forced to agree with the verdict. As an illustration of the way parents, the press and society, conspire to ruin our children, it is only necessary to quote from a description in an evening contemporary, of a children's party; given to celebrate the eighth birthday of a girl. There is a full description of the toilettes of the children, and, as an example, one "a perfect angel of seven happy summers, with fair hair, fair complexion and brilliant dark eyes, was elegantly attired in a rich rose satin, artistically designed and flounced, white tulle overdress, short sleeves, low corsage, pink satin trimmings and ruches, white flowers fastened to the shoulder, white flowers and pink ribbons in a curled head-dress, splendid golden necklace and locket, diamond ear-rings, gold bracelets and pink gaiters."

Similar accounts of the dress of babies of three and five are given. Putting aside the evident injudiciousness of forcing children in this manner, of flattering them and making them lose that sweetest charm of childhood, unconsciousness, what kind of taste is it that dresses such little folks in point lace and diamonds? In Europe these are left to the matrons, not even unmarried young ladies wearing them.

Parents are naturally proud of their children, but when this pride takes the form of dress it is an evil inflicted on the children, and a reflex injury to the parent. These newspaper descriptions of similar affairs are becoming too common. They encourage the evil as nothing else could, so that if we do not take care a simple-hearted, unconscious, healthy and tastefully dressed child will be as great a curiosity in our streets as a Dodo.

The above is from the *Philadelphia Press*. Every kind, loving parent must admit the broad truths it contains.

How much all our divisions and disputes arise out of our unfaithfulness to Christ? Each one seems anxious to justify his own little selfish reserve from the Lord, rather than to seek to be helped to employ his whole body, soul, and spirit in his most worthy and loving service.

MERIT will surely meet with its reward.

Let the Children Alone.

Let your children alone when they gather around the family table. It is a cruelty to hamper them with manifold rules and regulations about this, and that, and the other. As long as their conduct is harmless as to others, encourage them in their cheeriness. If they do smack their lips, and their supplings of milk and other drinks can be heard across the street, it does not hurt the street; let them alone. What if they do take their soup with the wrong end of the fork, it is all the same to the fork; let them alone.

Suppose a child does not sit as straight as a ramrod at the table; suppose a cup or tumbler slips through its little fingers and deluges the plate of food below, and the goblet is smashed, and the table-cloth is ruined; do not look a thousand scowls and thunders, and scare the poor thing to the balance of its death, for it was scared half to death before; it "didn't go to do it."

Did you never let a glass slip through your fingers since you were grown? Instead of sending the child away from the table in anger, if not even with a threat, for this or any other little nothing, be as generous as you would to an equal or superior guest, to whom you would say, with more or less obsequious smile, "It's of no possible consequence." That would be the form of expression even to a stranger guest, and yet to your own child you remorselessly, and revengefully, and angrily mete out a swift punishment, which for the time almost breaks its little heart, and belittles you amazingly.

The proper and more efficient and more Christian method of meeting the mishaps and delinquencies and improprieties of your children at table is either to take no notice of them at the time or to go further and divert attention from them at the very instant, if possible, or make a kind of apology for them; but afterwards, in an hour or two, or, better still, next day, draw the child's attention to the fault, if fault it was, in a friendly and loving manner; point out the impropriety in some kindly way; show where it was wrong or rude, and appeal to the child's self respect or manliness. This is the best way to correct all family errors. Sometimes it may not succeed; sometimes harsh measures may be required; but try the deprecating or the kindly method with perfect equanimity of mind, and failure will be of rare occurrence.—*Dr. Hall's Health of Good Living.*

All About Women.

MAMMOTH COLLEGE, Ill., has given a professorship to a Miss Watt, of Cincinnati.

THEBE CARY left a long unpublished poem, which will soon appear.

WOMEN edit five daily and fourteen weekly papers in Germany.

WOMEN now manage most of the public libraries in Massachusetts.

ERNESTINE L. ROSE, one of the most eloquent of women lecturers, is lecturing in England to enthusiastic crowds.

A BEAUTIFUL tablet has just been placed in the new divinity chapel at Yale College, as a memorial of Mrs. Marquand, wife of the donor of the chapel.

TWENTY quires make one ream; One Ream (Miss Vinnie) makes a statue.

"HOWARD GLYNDON," of the *New York Evening Mail*, is almost stone deaf, but is a dapper, bright-eyed and smart little woman for all that, and some of her letters are models of sparkling and sprightly journalistic correspondence.

MISS ELLA DUNLAP, of Champaign, Ill., daughter of Hon. H. L. Dunlap, of the *Chicago Tribune*, is an enthusiastic apiarian. She commenced with 45 stand of bees, and now has 100. All of the increase is by artificial swarming.

The *Columbus Independent* says that a widow and two daughters, in the north-western part of Cherokee county, having no strong arm of man to lean upon, have taken the reins into their own hands, and are carrying on farming in a creditable manner that would put to shame many of the would-be protectors of the fair sex of our country. They have, the present season, raised 25 acres of good corn, 15 acres of wheat, 12 acres of oats, besides large quantities of potatoes, onions, cabbage, etc. They have also constructed, with their own hands, quite a comfortable frame house.

BE slow to take when strangers haste to give.

NEVER forget a kindness.

YOUNG FOLKS' COLUMN.

Slaying the Rooster.

Listen, my boy, and you shall know
A thing that happened a long time ago,
When I was a boy not as large as you,
And the youngest of all the children, too.
I laugh even now as I think of it o'er,
And more I think, I laugh the more.
'Twas the chilly eve of an autumn day,
We were all in the kitchen, cheery and gay;
The fire burned bright on the old brick hearth,
And its cheerful light gave zest to its mirth.
My eldest sister, addressing me,
"To-morrow's Thanksgiving, you know," said she,
"We must kill the chickens to-night, you see;
Now light the lantern and come with me;
I will wring their necks until they are dead,
And have them all dressed ere we go to bed."
So the huge old lantern, made of tin,
Punctured full of holes and a candle within,
Put in its appearance in shorter time
Than it takes to make the jingling rhyme.
We started off, and the way I led,
For a raid on the chickens under the shed.
A pile of roots filled the open space,
Thus making a splendid roosting place;
And a motley tribe of domestic fowls
Sat perched there as grave and demure as owls.
My sister, unused to sights of blood,
And pale with excitement, trembling stood;
But, summoning courage, she laid her plans,
And seized the old rooster with both her hands,
And with triumph written all over her face,
Her victim bore to the open space.
Then she wrung and wrung with might and main,
And wrung, and twis'ted, and wrung again;
Till sure that the spark of life had fled,
And flung him down on the ground for dead.
But the rooster would not consent to die
And be made up into chicken pie,
So he sprang away with cackle and bound,
Almost as soon as he touched the ground;
And hiding away from the candle's light,
Escaped the slaughter of that dark night.
My sister, thus brought to a sudden stand,
And looking at what she held in her hand,
Soon saw why the rooster was not dead—
She had wrung off his tail instead of his head.

"The Boys Laugh at Me."

Joseph Garwood is eight years old. He wears shoes; the other boys wear boots. Joseph came to his mother, yesterday, in a very sad state of mind. The tears were rolling down his cheeks. His little fists had wiped them away for a while; but for every tear his fist dried, there was left a streak of dirt from his hands.

"What is the matter with my boy?" asked mamma.

"I want a pair of boots!" sobbed Joe.
"A pair of boots! Why, my lad, you have good shoes; and such shoes are better far than boots."

"The boys laugh at me, and call me a baby, 'cause I don't have boots," said Joe.

"Well, I think you are a baby," answered Mrs. Garwood. "A boy that is afraid of being laughed at is something of a baby; and a boy who cries because he is laughed at is a baby, sure enough; and a boy whose little hands are thrust up into his eyes, leaving such black streaks on his face, is a very great and a very dirty baby; and—" But before Mrs. Garwood could say another word, the "baby" had rushed to the basin, and washing his face and hands, started out of the house, yelling with all his might:—"No, I'm not a baby! I'm a boy! Shoes or no shoes, boots or barefoot, I won't be a baby! I'm a boy."—*Young Pilgrim.*

If W-o-r-c-e-s-t-e-r spells Wooster, don't R-o-c-h-e-s-t-e-r spell Rooster?

Charade—No. 1.

My first opposes you; my second enriches you; my whole is the delight of the notable.

No. 2.

My first is the effect of fear,
My second off the cause;
My whole's a name by all held dear,
Who study Nature's laws.

No. 3.

My first is irrational; my second is rational;
my third is mechanical, and my whole scientific.

Enigma.

I'm composed of 10 letters.
My 3, 2, 6, 5, 2, 6, is a county in Virginia.
My 4, 1, 2, 6, is a river in Prussia.
My 2, 8, is a Latin conjunction.
My 5, 2, 6, 2, 10, is one of the planets.
My 6, 9, 3, is an island east of Scotland.
My 1, 7, 1, 4, founded Carthage.
My 8, 9, is a Latin pronoun.
My 10, 9, 4 is a Latin preposition.
My whole was a great philosopher in ancient days.

A friend without faults will never be found.

DOMESTIC ECONOMY.

Farmers' Clubs and Farmers' Wives.

The reading of essays by the ladies is one of the exercises which give life and interest to the meetings of the Springfield (Vt.) Farmers' Club. From one of the essays, by Mrs. Daniel Rice, published in the Vermont Farmer, we copy the following paragraph:

Did you ever think of the amount of thought requisite to plan three meals a day for three hundred and sixty-five days in succession? To prepare enough and not too much, and for those living at a distance from the village, to remember that the stock of flour, sugar, tea, etc., is replenished in due time?—Do you ever think of the multitude of her cares and duties! She must rise early to prepare breakfast or oversee it.

Perhaps there are children to wash, dress and feed, or to get ready for school with their dinners. There is baking, sweeping, dusting, making beds, lunch for the men, may be—dinner, supper to be made ready at the proper time—the washing, starching, folding and ironing of clothes—the care of milk, including the making of butter and cheese—and the inevitable washing of dishes.

In autumn there is an additional work of pickling, preserving, canning of fruit, drying apples, boiling cider, making apple sauce, with the still more unpleasant task which falls to her lot in butchering-time. Then there is haying, harvesting, sheep-shearing, etc., when more help is needed, bringing an increase of her labors.

Twice a year comes house-cleaning. By the way, of all the foes a house-keeper has to contend with, dirt is the greatest. She may gain a complete victory, and think to repose upon her laurels after her semi-annual engagements—but it is only temporary. The enemy soon returns, and even daily skirmishing does not keep it at bay. There is the mending, too. Sewing machines are great blessings, but they can't set in a patch or darn the stockings.

I don't mention these things by way of complaining of woman's lot in general, or asking for her any rights which she does not possess. I don't know as there is any remedy in the present state of the world. It seems to be one of the evils of life, which must be borne as we bear other ills—but what I do ask is a due appreciation of the important part that woman acts, and a concession that her labors, mental and physical, are as great, all things considered, as those of the other sex. Women are not so childish that a little sympathy now and then, or acknowledgment of their efforts and sacrifices, make them imagine their case worse than it is. I tell you, men and husbands, "it doeth good like a medicine," and many a poor, crushed, broken-down wife and mother is dying for want of it.

BUCKWHEAT CAKES make an excellent dish for breakfast on a cold morning. The chemical constituents of this grain are such as to afford more animal heat than any other cereal. To make them nice, the following is perhaps the best receipt which can be given: Have ready two cups; put one teaspoonful of tartaric acid in one cup, one teaspoonful of soda in the other cup; add to each about two tablespoonsful of cold water; stir it well. Make one quart of buckwheat meal into a thick batter, with moderately warm water; add the contents of one of the cups; stir it well, then pour in the contents of the other cup; stir that well also; add to the whole one tablespoonful of melted butter, and bake on a griddle nicely cleaned and greased with good lard. The batter is ready for use as soon as mixed.

Many people think that three parts of buckwheat and one part of the best heavy oats make much better flour for cakes than buckwheat alone. The oats make the cakes light and spongy, and easy of digestion.

KEEPING FISH FRESH WITH SUGAR.—A method adopted in Portugal for preserving and keeping fish fresh, consists in first removing the viscera, then sprinkling sugar over the interior, and keeping the fish in a horizontal position, so that the sugar may penetrate to the greatest possible extent. It is said that fish prepared in this way can be kept completely fresh for a long time—the savor being as perfect as if recently caught. Salmon thus treated before salting and smoking, possess a much more agreeable taste. A tablespoonful of sugar is said to be sufficient for a five-pound fish.

DRIED apples, when they have been made of good fruit and carefully prepared, are very nice, really much richer, when gently stewed till perfectly tender, than the fresh fruit. Down in the country of peaches, I have seen them greatly preferred to dried peaches, though made of apples quite inferior to our best. They make good puddings, with sago and tapioca, as well as with bread, lemon and Zante currants.

For stewed sauce, a fine variety can be obtained by putting with them quinces, green grapes and rhubarb, either canned or fresh, and lemon pulp; and some use prunes, raisins and other fruits, both domestic and foreign. Sweet dried apples, usually so hard to dispose of, go off briskly when stewed with cranberries, rhubarb and other sour articles, when nice dried apples can be had.

We hope some of our readers who have been accustomed, often, to go without any fruit at their meals, because they despise "dried apples," will carefully try some of these recipes.

KEEPING TIN WARE BRIGHT.—It is a very good plan every washing day, before the hot suds are thrown out, to gather up the tin ware that is in daily use and wash it well with a woolen cloth in the tub or boiler. The brightness thus given to it is nicer than from scouring; besides, the ware is not worn out, and the seams, about the handles and spouts can be made very clean. With careful usage, tin and britannia ware need not wear out or fall into disuse, hardly in one's life time. All such ware should be made dry about the kitchen stove before it is put away.

Iron, or sheet iron ware, should be kept in good, presentable condition by stove blacking. There is no need of gray or dingy pots and tea kettles when they are so easily kept neat and in good order.

The tin wash boiler should always be washed and wiped and dried before putting away.—Rural New Yorker.

THE USE OF GLYCERINE IN CANNING.—We find the following in an exchange:—"Cans in which corn has been placed, sometimes burst in consequence of the fermentation of the contents. The use of pure glycerine will prevent this fermentation. It has only a faint, sweetish taste, not perceptible at all mixed in small quantities with other substances, and is not unhealthy, like many other anti-fermenting ingredients."

Corn which has been properly canned is no more likely to ferment than any other fruit, but the use of glycerine as a preventive to fermentation is new to us; although we are well aware that the glycerine itself will undergo no change. How much glycerine should be used to prevent fermentation, and how far may we depend on that substance. We should be pleased to have the experience of any one who has or may hereafter try it.

BROILED LIVER.—Liver can be prepared for the table in an excellent manner by broiling; many prefer it to frying. Broil about ten minutes, with a few slices of salt pork, then season with pepper and salt, and cut up into small strips with the pork; stew a few minutes with a little water and flour sufficient to thicken the gravy. Cut in thin slices for broiling or frying, and if tough soak it in cold salt and water for about a quarter of an hour previous to cooking it. When broiled it is nice minced fine and seasoned with salt, pepper and butter.

A TENDER GOOSE OR DUCK may be determined by raising the wing; if the skin tears easily the fowl is tender. If you can easily insert the head of a pin into the flesh of a goose or duck, it is tender and young. The strength of the joints of the legs and the coarseness of the skin is generally a good guide in buying a goose or duck. Such a test is more less applicable to all other fowls.

REMOVING GREASE SPOTS.—In removing grease spots from fabrics by means of benzine and petroleum, it often happens that a colored or stained outline of the portion moistened is left. This can be prevented by the application of a layer of gypsum, extending a little beyond the moistened region. When dry, the powder is to be shaken or brushed off, when no traces of the spot will remain.

AUSTRALIAN COOKED MEATS are sold in London at from 2½ to 3 cents—American currency—per lb. in cans, comprising boiled and stewed beef and mutton, and corned and spiced beef. It is pronounced rich, succulent and superior to any English meat, besides being cheaper.

Domestic Receipts.

JELLIES.—In making jellies of apricots, quinces, peaches, apples, or plums, peel, remove the stones or cores, cut in pieces, cover with water, and boil gently till well cooked; then strain the juice gently through a jelly bag and add a half pint of sugar to a pint of juice. For berries, a pound of sugar to a pint of juice; boil till it ropes from the spoon, or from fifteen to twenty minutes. In making raspberry jelly use one-third currants and two-thirds raspberries.

BREAKFAST BISCUIT.—Take a piece of risen bread dough, and work into it one beaten egg and a tablespoonful of butter or lard; when it is thoroughly amalgamized, flour your hands and make it into balls the size of an egg; rub a tin over with milk, and set them in a quick oven for twenty minutes, and serve them hot for breakfast. When eaten, break them open; to cut would make them heavy.

THURSDAY PUDDING.—Fill a tin mold with stale cake broken up fine, and pour over it a custard made of three eggs to a pint of milk, and let it stand one hour and a half. Add a little flavoring and a little sliced citron, and boil it one hour and a half. Then let it grow cold; turn it out carefully, sift fine sugar over it, and serve with sauce.

SPLIT ROLLS.—One egg well beaten; one tablespoonful sugar; one yeast cake dissolved in a cup of warm milk; two teaspoons salt; flour enough to make stiff batter; set it to rise; when risen work in a large spoonful of butter, and flour enough to roll; roll out an inch thick; spread over with butter or lard; fold in half; cut with biscuit cutter; let rise and bake.

CHICKEN SOUP.—Cut up the chickens, and put on to boil with some pieces of bacon, parsley, thyme, pepper and salt; make your dumplings of two eggs well-beaten, with a spoonful melted butter, and small bowl of flour. When well mixed, they may be dropped in the soup while boiling. After the soup is done, add one pint of milk, and let it boil well for a few minutes; then dish.

SALVE FOR CHAPPED HANDS, ETC.—Take equal weights of fresh unsalted butter, mutton tallow, beeswax and stoned raisins. Simmer until the raisins are done to a crisp, but not burned. Strain and pour into cups to cool. Rub it on the hands or lips before going to bed, or going out in the wind.

Mechanical Hints.

TO BLEACH SHELLAC.—Dissolve in an iron kettle one part of pearl ash in eight parts of water; add one part of pulverized shellac or seed lac, and heat the whole to ebullition. When the lac is dissolved, cool the solution and impregnate it with "chlorine" till the lac is all precipitated. This precipitate is white, but the color is deepened by washing and consolidation. Dissolve in alcohol. Lac bleached by this process yields a varnish as clear as copal.

LINSEED OIL.—Linseed oil is made from the seed of the flax plant (formerly called lint-seed,) by grinding them in a mill, and pressing the powder by hydraulic or other power. When first pressed it is of a golden yellow color, but soon collects impurities from the air, and turns brown. The impurities can be washed out by stirring water into it thoroughly, and leaving the water to settle. It contains no stearine, and hence does not congeal at low temperatures. Its chief use is in decorative and preservative painting. Being mixed with the powdered colors, and spread on wood, stone or iron with a brush, it soon dries and hardens into a coating which acts as cement, varnish, and shield from weather. To quicken its drying, it is boiled before using. It is sometimes used in medicine as a laxative, and for this purpose is made from the raw seed without roasting. It is quite an important article of commerce.

PROTECTING IRON.—Prof. F. Grace Calvert, of England, has discovered that the carbonates of potash and soda possess the same property of protecting iron and steel from rust as do those alkalis in a caustic state. If an iron blade is half immersed in a solution of either of the above named carbonates, it exerts so protective an action that that portion of the iron which is exposed to the influence of the damp atmospheric air does not oxidize, even after a period of two years. Similar results have been obtained with sea water, to which have been added the carbonate of potash and soda. The applications of this fact are numerous and important.

LIFE THOUGHTS.

NEVER open the door to a little vice, lest a great one should enter.

Of all the employments of man, that of wishing is one of the poorest.

The worst is not, so long as we can say, this is the worst.

A hypocrite is one that neither is what he seems, nor seems what he is.

Modesty seldom resides in a breast that is not enriched by noble virtues.

How canst thou be a judge of another's heart that dost not know thine own.

Without content, we shall find it almost as difficult to please others as ourselves.

If anybody maligns your character, live so that nobody will believe the slanderer.

The history of the world tells us that immoral means will ever intercept good ends.

PRICELESS as the gift of utterance may be, the practice of silence in some respects far excels it.

EVERY human creature is sensible to some infirmities of temper, which it should be his care to correct and subdue, particularly in the early period of life.

REAL fidelity may be rare, but it exists in the heart. They only deny its worth and power who never loved a friend, nor labored to make one happy.

The mind, as well as the body, needs its gymnasium. Each faculty should be developed to its appropriate power, and the whole molded into symmetry.

PASTIME is a word that should never be used, but in a bad sense; it is vile to say a thing is agreeable, because it helps to pass the time away.

The Value of Reading.

No matter how obscure the position in life of an individual, if he can read, he may at will put himself in the best society the world has ever seen. He may sit down with the good and great men of antiquity. He may converse with Franklin and Washington; with all the writers in prose and poetry. He may learn how to live, how to avoid the errors of his predecessors, and to secure blessings, present and future, to himself. He may reside in a desert far away from the habitations of man; in solitude, where no human eye looks upon him with affection or interest; where no human voice cheers him with the animating tones; if he has books to read, he need never be alone. He may choose his company and the subject of conversation, and thus become contented and happy, intelligent, wise and good. He thus elevates his rank in the world, and becomes independent in the best sense of the term. Reading, then, stands among the first in importance of the departments of school education.

EARN WHAT YOU SPEND.—Three-fourths of the difficulties and miseries of men come from the fact that most want wealth without earning it, fame without deserving it, popularity without temperance, respect without virtue, and happiness without holiness. The man who wants the best things, and is willing to pay just what they are worth, by honest effort and hard self-denial, will have no difficulty in getting what he wants at last. It is the men who want goods on credit that are snubbed and disappointed and overwhelmed in the end. Happiness cannot be bought by the bottle, nor caught up by the excursion train, nor put on with any robe or jewels, nor eaten at any feast. It does not exist in any exhilaration, excitement or ownership, but comes from the use of the faculties of the body and mind.

VICE.—The poison fangs of serpents, "when not employed, are hidden from sight by a fold or projection of the gum." It is only as the serpent strikes that the fangs are shown. Is this not a fit emblem of vice? The deadliest vice plays around the soul with hidden fangs, and long deludes us into vain imaginations of security. It conceals its venom until disclosed in the infliction of a fatal wound; and we often awake to the consciousness of danger only when the hope of escape has perished forever. There is no safety except in early flight, and distance and abhorrence maintained through life.

It is easier to go six miles to hear a sermon, than to spend one-quarter of an hour meditating on it when I come home.—Philip Henry.

Meeting of the California Legislature.

The Legislature meets at Sacramento, on Monday next. Much important business will come before this body at its coming session, and from the high character of its members for legal acumen, business qualifications and general uprightness, the fullest confidence is felt that the interests of the State have been entrusted to able and honest hands. Already, a marked disposition has been manifested by the members, in their unorganized capacity, to arrange for the speedy presentation and transaction of business.

Among the matters which will be brought forward at an early day, and in which the farmers are more interested than perhaps in any other, is a revision of the Fence laws. This is a subject of much importance in relation to the future prosperity of the State, and one which should be handled with much circumspection, to the end that all our various interests should be respected. We shall have our say upon the matter, when it comes up for discussion; and we hereby invite the opinions of others. As the *RURAL* is the special organ of the agricultural interest, and will doubtless have a large circulation in the Legislature, its columns will probably be found a more direct medium for laying the views of various sections before that body, than those of any other journal.

The laws with regard to our Swamp and Overflowed Lands also need some revision; and the large amount of attention that is now being attracted to that important source of our agricultural wealth, will doubtless find a careful and considerate hearing from the assembled wisdom of the State.

The election of a Senator in Congress, and the creation of a new Judicial District for the southern portion of the State, are matters of the very first importance, and will doubtless be considered and acted upon in a dispassionate manner, and with reference only to the highest good of the people.

In order that our readers may become thoroughly conversant with the names of those to whom the Legislative and Executive interests of the State are confided for the next two and four-year terms, we herewith again present a corrected list of the members of the Legislature, alphabetically arranged, and to which we have now added the names of the newly-elected State officers. This list will be found convenient for future reference, and for permanent preservation in the files of the *RURAL* PRESS.

State Officers and Members of the Legislature.

Governor—Newton Booth.
Lieut. Governor—Romualdo Pacheco.
Secretary of State—Drury Malone.
State Comptroller—James J. Green.
State Treasurer—Ferdinand Baehre.
Attorney General—John L. Love.
State Printer—Thomas A. Springer.
Clerk Supreme Court—Grant L. Taggart.
Surveyor General—Robert Gardiner.
Supt. Public Schools—H. N. Bolander.
Harbor Commissioner—John Rosenfeld.

Senators.

Andros, M. C.—R; Tuolumne and Mono.
Bloucher, David—R; Butte, Plumas and Lassen.
Boggs, John—D; Colusa and Tehama.
Beck, Thomas—D; Monterey and Santa Cruz.
Banvard, Edgar M.—D; Placer.
Betge, Robert—D; San Francisco.
Conte, A.—D; Sacramento.
Crane, L. T.—R; Yuba.
Dwyer, Barlow—R; Calaveras.
Duffy, James A.—R; Sacramento.
De Haven, J. J.—R; Del Norte, Humboldt and Klamath.
Evans, George S.—R; San Joaquin.
Farley, James T.—D; Amador and Alpine.
Fowler, Thomas—D; Fresno, Tulare and Kern.
Finney, S. J.—R; San Francisco and San Mateo.
Gwin, Wm. M.—D; Calaveras.
Goodall, David—R; Contra Costa and Marin.
Garratt, W. T.—R; San Francisco.
Hutchings, Samuel C.—D; Sutter and Yuba.
Irwin, Wm.—D; Siskiyou.
Keys, T. J.—D; Mariposa, Merced and Stanislaus.

Kent, Charles—R; Nevada.
Larkin, Henry—D; El Dorado.
McCusick, H. J.—R; El Dorado.
McCoy, James—D; San Diego and San Bernardino.
Maclay, Charles—D; Santa Clara.
McMurray, John—D; Shasta and Trinity.
Minis, Wm.—D; Solano and Yolo.
Neff, Jacob—R; Placer.
O'Connor, M. P.—D; Nevada.
Onilton, Geo.—R; San Francisco.
Perkins, Geo. C.—R; Butte, Plumas and Lassen.
Pendegast, W. W.—D; Lake, Napa and Mendocino.
Tompkins, Edward—Ind; Alameda.
Turner, H. K.—R; Sierra.
Tuttle, B. T.—D; Sonoma.
Van Ness, James—Santa Barbara and San Luis Obispo.
Wilson, B. D.—D; Los Angeles.
Ward, Thos. N.—D; San Francisco.
Wing, Stephen—R; Tuolumne and Mono.

* Hold-over Senators.

Assemblymen.

Aldrich, W. A.—R; San Francisco.
Andrews, A. R.—D; Shasta.
Brown, C. L. F.—R; Calaveras.
Burkhalter, J.—D; Kern and Tulare.
Barklage, Wm.—R; El Dorado.
Bayley, A. J.—D; El Dorado.
Barnes, B. W.—R; Plumas and Lassen.
Bell, Robert—R; Nevada.
Barker, S.—R; Nevada.
Baird, Custis—R; San Mateo.
Brooks, G. N.—R; Santa Cruz.
Berry, C. P.—D; Sutter.
Bacon, P. B.—R; Tuolumne, Mono and Inyo.
Bradley, J. C.—R; Yuba.
Coleman, Cyrus—R; Alpine and Amador.
Crane, E. T.—R; Alameda.
Center, Samuel H.—R; El Dorado.
Chalmers, Robert—R; El Dorado.
Caldwell, Wm.—D; Sonoma.
Connolly, W. C.—D; Tuolumne, Mono, Inyo.
De Haven, W. N.—R; Butte.
Days, J. M.—R; Nevada.
Dannals, Geo. W.—D; San Diego.
Eagan, J. A.—Ind; Alpine and Amador.
Ellis, Asa—D; Los Angeles.
Everett Henry—R; Nevada.
Eagar, William—R; Yuba.
French, C. G.—R; Sacramento.
Frank, H. C.—R; Santa Clara.
Freeman, T. S.—R; Yolo.
Gibson, J. L.—D; Calaveras.
Galloway, Joseph W.—R; Contra Costa.
Gray, Giles H.—R; San Francisco.
Goodall, Charles—R; San Francisco.
Hays, H. M.—R; Monterey.
Hopper, P. J.—R; Sacramento.
Harvey, Dr. O.—R; Sacramento.
Henshaw, E. C.—D; Sonoma.
Johnson, Wm.—R; Sacramento.
James, W. T.—R; San Francisco.
Jost, Chas.—R; San Francisco.
Lee, O. H.—R; Placer.
Long, Henry—R; Placer.
Little, W. A.—D; Siskiyou.
Lofton, F. R.—R; Yuba.
Luttrell, J. K.—D; Siskiyou.
Mott, T. D.—D; Los Angeles.
Mathers, Geo. B.—D; Mendocino.
Meeker, David—R; San Francisco.
McCullough, Samuel—R; San Francisco.
Munday, R. B.—D; Sonoma.
Mott, E. B.—R; Sacramento.
Pardee, E. H.—R; Alameda.
Rector, T. H.—D; Del Norte and Klamath.
Russ, Joseph—R; Humboldt.
Rice, J. B.—R; Marin.
Reed, H. R.—R; San Francisco.
Stillwagon, N. W.—R; Lake and Napa.
Sensabaugh, J. B.—D; Merced.
Slaughter, F. M.—D; San Bernardino.
Shannon, T. B.—R; San Francisco.
Spivalo, A. D.—R; San Francisco.
Seive, John—R; San Francisco.
Sargent, R. C.—R; San Joaquin.
Sargent, S. P.—R; Santa Clara.
Spencer, T. E.—R; Santa Clara.
Sanders, B. J.—R; Sierra.
Shrack, L. M.—D; Calaveras.
Turner, J. N.—R; Butte.
Tinnin, H. J.—D; Trinity.
Ward, Loomis—D; Colusa.
Walker, J. M.—D; Fresno.
Wilcox, John W.—D; Mariposa.
Wilty, Jacob—R; Placer.
Wheaton, Wm. R.—R; San Francisco.
Woodward, F. J.—R; San Joaquin.
Wasson, Milton—R; Santa Barbara.
Whitney, D. L.—R; Sierra.
Wright, M. J.—R; Solano.
Whitney, Geo. A.—D; Tuolumne Mono and Inyo.

The Senate stands 18 Republicans, 22 Democrats, and 1 Independent. The Assembly stands 55 Republicans, 24 Democrats, 1 Independent.

A FISHY QUESTION.—EDITORS PRESS:—After reading in your last issue the theory of why salmon remain abundant for a longer period at Rio Vista than at other points along the Sacramento, allow me to ask if a natural aversion of the fish to a too sudden change from salt to fresh water, and *vice versa*, might be sufficient to account for this acknowledged habit, without the parasites? T.

ELK.—It is estimated that not less than one thousand elk were killed last year in Coos county, Oregon, for the skins only.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING NOVEMBER 14.

ASH-PAN FOR STEAM BOILERS.—John Gates, Portland, Oregon.

ANIMAL TRAP.—Nathan S. Howell, Tualatin, Oregon.

BALING PRESS.—Thomas J. Corning, San José, Cal.

TRADE-MARK.

MEDICINES.—John J. Haley, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible by telegraph or otherwise at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Good Cause for Thanksgiving.

Few communities has had greater cause for thanksgiving than have the people of California during the past week; and we doubt not that most hearty and devout thanks went up to the Giver of All Good on Thursday last, for the welcome foretaste of a prosperous season, which the bounteous rains of Sunday, Monday and Tuesday brought to our needful doors. By the delay of the November rains to near the very close of the month, a feeling of doubt and distrust had begun to find its way into the minds of our people, which has now, happily, given place to most cheerful views of the industrial and business prospects of the coming season.

We have now received fully the allotted amount of rain—about four inches—due, at the present time, to secure more than an average crop, and our farmers will lose no time in preparing their ground and getting in the seed. The experience of the past few years is a valuable addition to the stock of knowledge needed by California farmers. They have learned that drouths are an exception to the general value, and even they are not so much to be dreaded as formerly;—for, by proper attention, except in a few localities, fair crops can even then be raised, save in the most extraordinary seasons.

As we write the sky is beautiful and bright, and moistened earth all ready for the plow and the seed. Joyous faces and thankful hearts are everywhere found as the evidences increase of renewed activity in enterprise, and confidence of an abundant harvest to reward the farmer's toil.

A Remarkable Success.

Started January 1, 1871, with a list of 1100 subscribers for the farming edition of the *Scientific Press*, the *PACIFIC RURAL PRESS* has proved one of the greatest successes known in journalism on the Pacific Coast. It is now thoroughly and permanently established by editors and publishers who have had over fifteen years favorable experience in their profession in California. We have been very active, with agents, all over the western half of the U. S., who have met with universal encouragement. The great need of such a publication in so vast and novel a field is one of the strong reasons of its speedy advancement. Following are some opinions of the press:

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—*Encinal*.

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural journal. Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder*].

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population. Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—[*Democrat, Downsville*].

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—[*Alpine Chronicle*].

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—[*Christian Advocate, S. F.*].

It will represent the agricultural interests of California and the Pacific Slope. With so much ability as to command a wide circulation and influence.—[*Helenia, (M. T.) Gaz.*].

We think the rural people of the Pacific Coast will have an organ second to none in the country.—[*Idaho Statesman*].

Patents for Farm Implements and Machinery.

Our familiar acquaintance with the implements and machinery (including patented and unpatented devices), in use on this coast, together with one long and successful experience in obtaining patents for inventors of the Pacific States, enables us to render better advice and services to inventors than it is possible for them to procure elsewhere. Permanently established, our interest is mutual with home inventors, all of whom will find us honest, reliable and reasonable in every transaction. Patent circulars sent free. DEWEY & CO., U. S. and Foreign Patent Agents and Attorneys, No. 338 Montgomery St., S. E. corner of California, S. F.

PACIFIC RURAL PRESS.—L. P. McCarty is in town, canvassing for the above excellent agricultural weekly. A more neatly printed or ably edited agricultural journal does not exist. With a large corps of competent contributors, the *Press* is made a most useful visitor to all classes. No industrial interest is neglected. It is a paper that needs only to be known to be largely patronized.—[*S. J. Mercury, Oct. 26th*].

SUCCESS IN BUSINESS.—Success in the business world usually depends upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to *HEALD'S BUSINESS COLLEGE*, located in the new College Building, 24 Post street, San Francisco. This is the only school on the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which cannot be discussed here. Call at the College and examine its workings. If unable, send for circular, and *HEALD'S COLLEGE JOURNAL*, which will be sent free upon application. Address E. P. HEALD, President, Business College, San Francisco, Cal. 10v23bp-3m

Go to the Best.—Young and middle-aged men should remember that the *PACIFIC BUSINESS COLLEGE* is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL for business on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the *PACIFIC RURAL PRESS*. M. K. LAUDEN, President, San Francisco, Cal.

UNIVERSITY OF CALIFORNIA.—The Preparatory Department is under the charge of five Professors of the University, and six tutors.

Besides the studies of the public schools, Algebra, Geometry, Latin, Greek, German, French, Spanish and Book-keeping are taught.

Terms: Board and tuition, 4 weeks, \$30. Students received at any time. GEORGE TAIT, Oakland, Master Fifth Class. se9bpt

\$5 to \$20 PER DAY AND NO RISK.—Do you want a situation as salesman at or near home to introduce our new 7-strand White Wire Clothes Lines, to last forever. Don't miss this chance. Sample Free. Address Hudson River Wire Works, 75 William street, N. Y., or I Dearborn street, Chicago, Ill. 23v112mbp

LADIES DESIRING TO PROCURE A FIRST-CLASS SEWING Machine against easy monthly installments may apply to No. 294 Bowery, 157 E. 26th, 477 9th Ave., New York Good work at high prices if desired. 21v112mbp



It is one of the Largest, best Illustrated and most Original and Entertaining Agricultural Journals in America, and has no rival on the western side of the Continent. Its circulation is rapidly increasing, and it is very Popular with its Patrons.

A NEW HUSBANDRY.

As it were, is required on the Pacific Coast, on account of its peculiar seasons, soil, climate and topography. The new discoveries, ideas, and useful hints evolved in its rapid progress, are to be observed with interest, and read, as reported in the *PACIFIC RURAL*, with profit by practical and progressive agriculturists everywhere. Sample copies of the *Press*, post paid, 10 cts. Subscription, \$4 a year.

DEWEY & CO., Publishers,

No. 338 Montgomery St., San Francisco, Cal. Nov., 1871.

HINTS FOR INVENTORS. We will send on receipt of stamp for postage, FREE, our 48 page Circular, containing 112 Illustrated Mechanical Movements; a digest of PATENT LAWS; information how to obtain patents, and about the rights and privileges of inventors and patentees; list of Government fees, practical hints, etc., etc. Address DEWEY & CO., Publishers and Patent Agents, San Francisco.

ENGRAVING ON WOOD DESIGNING AND ENGRAVING on wood and for electrotype cuts of every description, done by superior artists in the office of the SCIENTIFIC PRESS. Fine cuts made for Book and Newspaper Illustrations, and for Fancy Labels for printing in various colors; Monograms, Seals, etc., etc. Prompt execution and reasonable prices.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, THURS., A. M., Nov. 29.

FLOUR—Market quiet. Sales reported embrace 500 bbls. Cal. extra, 1,000 Oregon extra. We quote prices as follows:

Superfine, \$6.50@6.75; extra, in sacks, of 196 lbs. \$7.50. Standard Oregon brands, extra, may be quoted at \$7.50.

WHEAT—Market inactive. Sales of some 1,100 sacks fair to choice at \$2.55 @ 100 lbs.

The latest Liverpool market quotation comes through at 12s. 11d. per cental.

BARLEY—Has been rather quiet during the past week. Sales embrace 1,200 sacks choice brewing, at \$1.90@2.10. Quotable at close at \$1.90@2.10.

OATS—Market inactive. Sales embrace 1,500 sacks ordinary coast to choice bay, at \$1.80@2.00, which is the range at the close.

CORN—Is quotable at 2.05@2.10 for old yellow and old white respectively @ 100 lbs.

CORNMEAL—Is quotable at \$2.50@3.00 from the mill.

BUCKWHEAT—Demand light at \$2.50.

RYE—According to quality is quotable at \$2.25@2.35.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Selling at \$30 per ton from the mill.

MIDDLINGS—For feed are selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Is weak, and prices at close are \$20@26 for fair to choice @ ton.

HONEY—The supply is fair. We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—Bodega, Tomales and Petaluma, 70c@80c; Humboldt and Pigeon Point, 90c@1.05.

SWEET POTATOES—Are selling at \$2.00 @ 100.

HOPS—We quote new at 40@65c.

HIDES—During past week 2,300 Cal. dry sold at 17@18 and 1,400 salted at 9@9½c.

WOOL—Sales for the week approximate 100,000 lbs. though the market is dull at 22@26c for clean pull.

TALLOW—Market dull at 9@9½c @ lb.

SEEDS—Flax 3c; Canary, 7@7½c; Alfalfa, 15@16c; Mustard—California Brown, 3@6c; Cal. White 3½@4½c @ lb.

PROVISIONS—California Bacon 14½c; Oregon, 15½@16c; Eastern do. 13½@14c; for clean and 16@17 for sugar-cured Breakfast; Cal. Hams 15; Oregon, 16½@17c; California Sugar-cured Hams, 16@18c; Oregon do. 16@18c; Eastern do. 19@21c; California Smoked Beef, 13½@14c.

BEANS—Market continues firm. The following are jobbing rates: Pea 3.25@3.50; small White \$2.75@3.25; small Butter \$2.50@2.75; Pink \$2.12½@2.50; Bayo, \$3.75@4.00; Navy \$3.50 @ 100 lbs.

ONIONS—We quote the range from fair to choice at \$1.00@1.25 @ 100 lbs.

NUTS—California Almonds, 8@10c. for hard and 18@25c for soft shell; Peanuts, 5@7c; Pecan, 25c @ lb. Walnuts, new, 12c; Hickory, 12c; Brazil, 16c; Chili Walnuts 10c.

COFFEE—Costa Rica 21c; Guatemala 20c; Java 25½c; Manilla, 19½@20; Rio 19½@20. Ground Coffee in cases 30c.

SPICES—Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs 1.00@1.10. Whole Pepper 19c. Ground Spices—Allspice \$1.00 @ doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 @ doz.; Mace \$1.50 @ lb.; Ginger 15c @ lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9½c @ lb. Do 2d quality 7@8c @ lb. Do 3d do 5@6c @ lb.

VEAL—Quotable at 8@10c.

MUTTON—6@6½c @ lb.

LAMB—Quotable at 7@8c @ lb.

PORK—Undressed grain-fed is quotable at 6@6½c. dressed, grain-fed, 8@8½c.

POULTRY—Live Turkeys, 20@30c @ lb; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$6.00. Ducks, tame, \$6.00@7.00 per doz.; Geese, \$12@15 @ dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87½; English Snipe, \$1.75@2.00; Mallard Ducks, \$3.00@3.50; Small Ducks, \$1.50; Wild Geese @ doz. \$1.50@3.00; Venison @ lb., 6@8c; Terrapin @ doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@60c; California firkin butter, 25@35c. Pickled 32½@37½. Eastern firkin 20@35c.

CHEESE—California 14@18c, Eastern, 16@17c. Eggs—California fresh, 50@55c @ doz.

LARD—California 12½@13½; Oregon in bbls. and kegs 13@13½c; do in cases 14½@15.

Observations on the Culture of Silk in California. By I. N. Hoag, of Sacramento, 1870, Pamphlet, 33 pages. For sale by DEWEY & CO. Publishers of PACIFIC RURAL PRESS, San Francisco. Post paid, 25 cts.

CHICO, Nov. 7, 1871.—Messrs. DEWEY & CO.—Allow me to return my thanks for the expeditious manner in which you have done business intrusted to you by me, as well as for the full and complete specification and claims established. Yours truly, FRANCES M. MOORE.

San Francisco Retail Market Rates.

THURSDAY NOON, November 30, 1871.

MISCELLANEOUS.

| | | | | | |
|---------------------|------|-------|-------------------|-----|-------|
| Butter, Cal. fr. lb | 65 | @ 75 | Second-hand do | 67½ | @ 70 |
| Pickled, Cal. lb | 45 | @ 50 | Wheat-sks, 22x36 | 12 | @ 13 |
| do Oregon, lb. | 25 | @ 30 | Potato G'y Bags | 22 | @ 22 |
| Honey, @ lb. | 25 | @ 30 | do do | 15 | @ 15 |
| Cheese, @ lb. | 25 | @ 25 | Deer Skins, @ lb. | 15 | @ 25 |
| Eggs, per doz. | 75 | @ 80 | Sheep sks, w/ on | 50 | @ 75 |
| Lard, @ lb. | 18 | @ 20 | do do, plain | 12½ | @ 25 |
| Sugar, cr., 6½ lb | 100 | @ 100 | Goat skins, each | 25 | @ 50 |
| Brown, do, @ lb | 10 | @ 13 | Dry Cal. Hides | 17½ | @ 18 |
| Beet, do, @ lb | 100 | @ 100 | Salted do | 8½ | @ 9 |
| Sugar, Map, lb. | 25 | @ 30 | Dry Mex. Hides | 16 | @ 20 |
| Plums, dried, lb. | 15 | @ 20 | Salted do | 8½ | @ 9 |
| Peaches, dried, 15 | @ 30 | | Codfish, dry, lb. | 10 | @ 12½ |
| Wool Sacks, new | | | | | |

PRODUCE, ETC.

| | | | | | |
|--------------------|-----|------|------------------|------|------|
| Flour, ex, @ bbl. | 80 | @ 85 | Beans, cut, @ 50 | @ 40 | @ 50 |
| Superfine, do. | 60 | @ 70 | Potatoes, @ lb. | 1 | @ 2 |
| Corn Meal, 100 lb. | 30 | @ 30 | Hay, @ ton | 25 | @ 28 |
| Wheat, @ 100 lbs. | 75 | @ 80 | Live Oak Wood | 9 | @ 10 |
| Oats, @ 100 lbs. | 15 | @ 20 | Tallow, @ lb. | 9 | @ 10 |
| Barley, cwt. | 185 | @ 20 | | | |

FRUITS, VEGETABLES, ETC.

| | | | | |
|-------------------------|-----|---------|----------------------|-------|
| Pine Apples, @ 50 | 30 | Garlics | 5 | @ 12½ |
| Bananas, @ lb. | 30 | @ 50 | Green Peas, @ lb. | 37½ |
| Cal. Walnuts, lb. | 20 | @ 20 | Green Corn, doz. | 8 |
| Cranberries, @ lb. | 75 | @ 100 | Sugar Peas, @ lb. | 25 |
| Cranberries, @ lb. | 75 | @ 25 | Cucumbers, doz. | 37½ |
| Pears, table, @ lb. | 75 | @ 80 | Lettuce, doz. | 12 |
| Plums, Cherry, @ lb. | 6 | @ 8 | Mushrooms, @ lb. | 50 |
| Strawberries, lb. | 37½ | @ 50 | Horse radish, @ lb. | 20 |
| Oranges, @ 100. | 30 | @ 40 | Okra, dried, @ lb. | 50 |
| Lemons, @ 100. | 50 | @ 70 | Pumpkins, @ lb. | 3 |
| Limes, per 100. | 150 | @ 150 | Parsnips, @ bunch | 25 |
| Pigs, dried, @ lb. | 50 | @ 50 | Parsley, @ lb. | 50 |
| Asparagus, wh., @ lb. | 50 | @ 50 | Pickles, @ gal. | 25 |
| Apricots, @ lb. | 6 | @ 10 | Rhubarb, @ lb. | 10 |
| Artichokes, doz. | 50 | @ 75 | Radishes, @ bunch | 25 |
| Brussel's sprts., @ lb. | 20 | @ 25 | Green Peppers, @ lb. | 6 |
| Beets, @ doz. | 20 | @ 25 | Red do. | 25 |
| Potatoes, @ lb. | 2 | @ 3 | Summer Squash | 6 |
| Potatoes, sweet, @ lb. | 4 | @ 5 | Marrowfat, do. | 3 |
| Broccoli, @ doz. | 150 | @ 200 | Hubbard, do. | 4 |
| Cauliflower, @ lb. | 100 | @ 150 | String Beans, lb. | 8 |
| Cabbage, @ doz. | 75 | @ 100 | Dry Lima, sh. | 6 |
| Carrots, @ doz. | 10 | @ 25 | Spinage, @ bckt. | 25 |
| Celery, @ doz. | 75 | @ 100 | Salsify, @ bunch | 12 |
| Cress, @ doz bun | 20 | @ 25 | Turnips, @ doz. | 25 |
| Dried Herbs, @ lb | 25 | @ 50 | New Tomatoes, @ lb. | 5 |
| Egg Plant, @ lb. | 12½ | @ 20 | | |

POULTRY, GAME, FISH, MEATS, ETC.

| | | | | | |
|---------------------|-----|-------|-----------------------|-----|-------|
| Chickens, apiece | 50 | @ 75 | Bacon, Cal., @ lb. | 18 | @ 20 |
| Turkeys, @ lb. | 50 | @ 75 | Hams, Cal., @ lb. | 18 | @ 20 |
| Ducks, wild, @ lb. | 50 | @ 75 | Hams, Cross s c | 25 | @ 25 |
| Tame, do, @ lb. | 150 | @ 175 | Choice D field | 25 | @ 25 |
| Teal, @ doz. | 300 | @ 300 | Whittaker's .. | 25 | @ 25 |
| Geese, wild, pair | 75 | @ 100 | Johnson's Or. | 30 | @ 30 |
| Tame, pair | 250 | @ 300 | Salmon, @ lb. | 10 | @ 12 |
| From Chicago | | | Smoked, new, @ lb. | 6 | @ 8 |
| Hens, each | 75 | @ 100 | Pickled, @ lb. | 6 | @ 8 |
| Snipe, @ doz. | 150 | @ 200 | Rock Cod, @ lb. | 10 | @ 12 |
| English, do | 250 | @ 300 | Perch, s water, lb. | 8 | @ 10 |
| Venison, @ lb. | 12½ | @ 15 | English water, lb. | 12½ | @ 15 |
| Quails, @ doz. | 25 | @ 50 | Lake Big Trout | 37½ | @ 50 |
| Pigeons, dom. doz | 100 | @ 150 | Smelts, @ lb. | 10 | @ 12½ |
| Wild, do, @ lb. | 40 | @ 50 | Herring, fresh, @ lb. | 5 | @ 10 |
| Hares, each | 50 | @ 100 | Sm'kd, per 100 | 25 | @ 38 |
| Rabbits, tame | 50 | @ 100 | Tomatoes, @ lb. | 25 | @ 38 |
| Wild, do, @ lb. | 12½ | @ 15 | Terrapin, @ doz. | 40 | @ 50 |
| Squirrel, pair | 25 | @ 38 | Mackerel, p k, ea | 25 | @ 30 |
| Beef, tend, @ lb. | 20 | @ 25 | Fresh, do | 25 | @ 30 |
| Sirloin and rib | 18 | @ 20 | Sca Bass, @ lb. | 25 | @ 30 |
| Corned, @ lb. | 10 | @ 12 | Halibut, @ lb. | 50 | @ 60 |
| Smoked, @ lb. | 15 | @ 18 | Sturgeon, @ lb. | 4 | @ 5 |
| Pork, rib, @ lb. | 12 | @ 15 | Oysters, @ 100. | 100 | @ 125 |
| Chops, do, @ lb. | 12 | @ 15 | Cheep, @ doz. | 50 | @ 62 |
| Veal, @ lb. | 15 | @ 20 | Turbot, @ lb. | 50 | @ 62 |
| Cutlet, do | 20 | @ 25 | Crabs, @ doz. | 37 | @ 50 |
| Mutton chops, @ lb. | 12½ | @ 15 | Soft Shell | 10 | @ 12 |
| Leg, @ lb. | 12½ | @ 15 | Shrimps | 10 | @ 12 |
| Lamb, @ lb. | 15 | @ 20 | Prawns | 25 | @ 50 |
| Tongues, beef, ea | 75 | @ 100 | | | |
| Tongues, pig, ea | 15 | @ 20 | | | |

* Per lb. † Per dozen. ‡ Per gallon.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, November 30.

SOLE LEATHER—Eastern shipments still keep the market firm and the demand good.

CITY TANNED LEATHER, @ lb. 26@29

Santa Cruz Leather, @ lb. 25@28

Country Leather, @ lb. 25@28

French stock comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm.

California kip and calf skins are still scarce and high.

Jodot, 8 Kil, per doz. 95 00

Jodot, 11 to 15 Kil, per doz. 60 00@80 00

Jodot, second choice, 11 to 15 Kil, per doz. 60 00@80 00

Lemoine, 12 to 15 Kil, per doz. 95 00@100 00

Levin, 12 and 13 Kil, per doz. 88 00@70 00

Cornellian, 16 Kil, per doz. 72 00@70 00

Cornellian, 12 to 14 Kil, per doz. 65 00@70 00

Ogerau Calif, @ doz. 54 00@50 00

Simon, 18 Kil, @ doz. 65 00

Simon, 20 Kil, @ doz. 68 00

Simon, 24 Kil, @ doz. 72 00

Robert Calif, 7 and 8 Kil, @ doz. 72 00@40 00

French Kips, @ doz. 1 10@1 30

California Kip, @ doz. 65 00@50 00

French Sheep, all colors, @ doz. 15 00

Eastern Calf for Backs, @ lb. 1 15@1 25

Sheep Roans for Topping, all colors, @ doz. 8 00@13 00

Sheep Roans for Linings, @ doz. 5 50@17 00

California Russett Sheep Linings, @ doz. 1 75@5 50

Best Jodot Ca f Boot Legs, @ pair 5 25

Good French Calf Boot Legs, @ pair 4 50@5 00

French Calf Boot Legs, @ pair 4 00

Harness Leather, @ lb. 48 00@72 00

Fair Bridle Leather, @ lb. 34 00@37 00

Skirting Leather, @ lb. 30 00@50 00

Welt Leather, @ doz. 17 00@21 00

Buff Leather, @ foot. 18 00

Wax Side Leather, @ foot. 18 00

San Francisco Metal Market.

[Corrected weekly by Hooker & Co., 117 and 119 Cal. street.]

PRICES FOR INVOICES

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, December 1, 1871

IRON—Duty: Pig, \$7 @ ton: Railroad, 80c @ 100 lbs; Bar, 1 10@1 15; Sheet, 1 10@1 15; Pipe, 1 10@1 15; Galvanized, 2 10@2 15

SCOTCH and English Pig Iron, @ ton. \$44 00@45 00

White Pig, @ ton. 40 00@42 00

Refined Bar, good assortment, @ lb. 04 00@05 00

Refined Bar, good assortment, @ lb. 03 00@04 00

Boiler, No. 1 to 4. 01 00@02 00

Plate, No. 5 to 9. 01 00@02 00

Sheet, No. 10 to 13. 01 00@02 00

Sheet, No. 14 to 20. 06 00@07 00

Sheet, No. 24 to 27. 06 00@07 00

House Shoes. 7 50

Nail Rod. 9

Norway Iron. 7½

Roller Iron. 5

Other Irons for Blacksmiths, Miners, etc. 5 @ 6

COPPER—Duty: Sheathing, 3½c @ lb; Pig and Bar, 2½c @ lb.

Sheathing, @ lb. 24 00@26 00

Sheathing, Yellow. 24 00@25 00

Sheathing, Old Yellow. 11 00@11½ 00

Composition Nails. 24 00

Composition Bolts. 24 00

TIN PLATES—Duty: 2½c @ lb ad valorem.

Plates, Charcoal,

New Gas Light.

GAS LAMPS

CALL

of
EVERYand
EXAMINE

DESCRIPTION,

THEM,

with the

or send for
DESCRIPTIVE

Latest

CIRCULAR

Improved

and
PRICE LIST.

BURNERS.



WIESTER & CO., 17 New Montgomery street,
no 25-83 (Grand Hotel), San Francisco.

Dental Patent.

THE MOST

VALUABLE

IMPROVEMENT

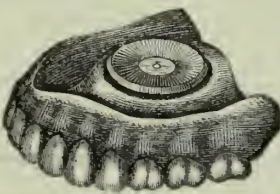
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Dental Plates

That has been

Made for Years.

WIESTER & CO., 17 New Montgomery st., S. F.



PIONEER COOPERAGE,



118 K Street, between Fourth and Fifth, opposite the
Metropolitan Theater, SACRAMENTO.

C. SCHAEFER,

MANUFACTURER OF WINE CASKS

From 100 to 10,000 Gallons Each,

and Larger.

Also, PIPES, BEER, WINE AND LIQUOR KEGS,
BUTTER FIRKINS, PORK BARRELS, ETC.,
Made of the Best Eastern White Oak.

Tanks of Redwood or Sugar Pine, for Wine Making
or Water Reservoirs, made to Order.

Well Seasoned Timber Used.

ORDERS promptly attended to.

6v2-3m

To Churches, Lodges, Schools, Etc.

A Real Pipe Organ (no reeds). The Derrick, Feldmaker
& Co.'s "Portable Pipe Organs" are said by judges to be
superior to stationary Pipe Organs (all things considered)
of two or three times the cost, and money spent for fixed
or cabinet Organs whose tones are all made on the accor-
deon principle, is thrown away, as the Pipe Organ costs no
more, stands in tune better and is far more durable. They
have the essential stops of the large Pipe Organs, with
their mellowness of tone, in beautiful Walnut or
Rosewood Cases, on Castors. Nothing injures the voice
sooner than singing with Reed Organs. Every Church,
Parlor and Lodge may have a real pipe tone to imitate.
They were admired at the last State Fair, and given a
Special Premium over the most improved Reed Organs.
They will be boxed and shipped to any part of the Coast,
all ready for use, on receipt of price. Send for descriptive
price list.

The MATHUSHEK PIANO, which took the Silver Medal
at the last State Fair, is made on new principles, that make
it the richest toned and most durable; stands in tune at
quarter the expense of those made on the old style.
The ORCHESTRAL is a Square Grand, Three-Stringed,
Equalizing Scale, Linear and Suspension Bridges, grafts
through out, 6 feet 9 1/2 inches long, by 3 feet 4 inches wide;
is first-class in every respect; will be sold at prices asked
for common Parlor Pianos. The COLIBRI is a Square,
Seven Octave Piano, 4 feet 11 1/2 inches long, and 2 feet 1
inches wide. This wonderful little instrument took the
highest prize over all full sized pianos at the great Fair of
the American Institute for its great power and sweetness of
tone. They are especially adapted for our California climate.
JOHN F. COO'ER, Sole Agent for this Coast,
16v2-3m Sixth st., between I and J st., Sacramento.

To Tourists.

Your attention is called to the fact that Three
Prominent Places of Resort can be visited in one
trip, accessible the year round, viz:

CRYSTAL SPRINGS, PESCADERO, SANTA CRUZ.

Pescadero—Fifty-two miles from San Francisco—is
one of the most delightful places of resort on the Pacific
Coast. Its Beautiful Drives, Beaches of Moss, Pebbles
and Shells, Forests, Sparkling Streams, Hunting and
Fishing, cannot be surpassed.

The SWANTON HOUSE, at this place, is all the Tourist
could ask, for comfort and convenience; C. W. Swanton,
Proprietor.

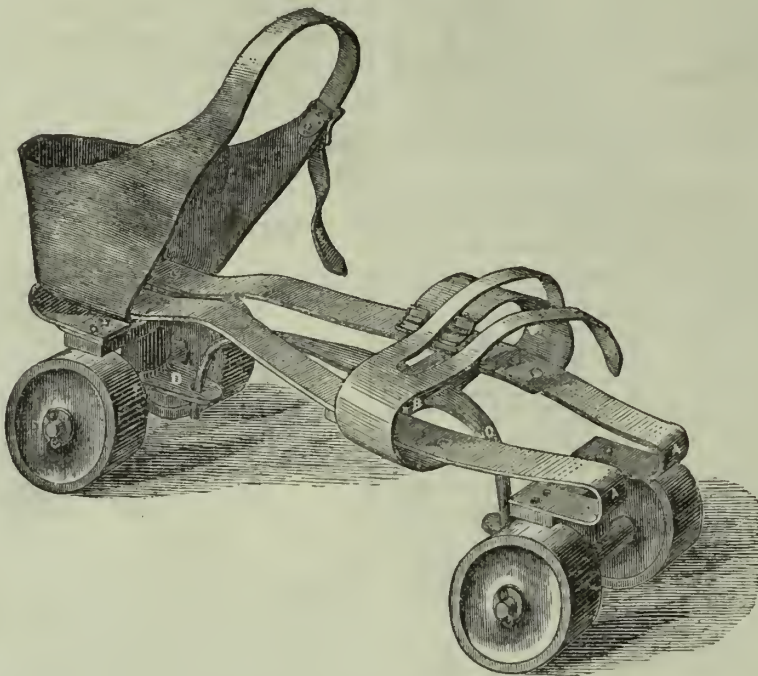
Santa Cruz has similar advantages and additional
bathing facilities. Parties taking the morning train of
the San Jose Railroad, on arriving at San Mateo, will
find Wellington & Son's First-class Six Horse Coaches,
to convey them to Pescadero, arriving at 3 o'clock P. M.
Through tickets at the Railroad Office, \$3.85. Connecting
with the Santa Cruz and Pescadero State Line, which
leaves Pescadero every Tuesday, Thursday and Satur-
day, and leaves Santa Cruz on alternate days. Fare,
\$3.00. Wm. H. Bias, Proprietor. Through distance
from San Francisco, 90 miles—the most beautiful of any
similar distance on the Pacific Coast. 12v2-3m

Alderney Bull for Sale

by W. A. Z. Edwards, three miles north of San Jose, on
the Alviso road, Santa Clara county, Cal. 15v2-3m

THE C-SPRING ROLLER SKATE,

PATENTED 1871.



Rights and Skates for Sale.

This superior Skate is now beginning to attract the attention of Rink Owners, it being the only Cramping
Skate now before the public (except the Plympton Skate) that can run without infringing a former patent.

This Skate is Positively no Infringement

of anybody's patent. It is made in the most substantial and workmanlike manner, and possesses the following
points of merit: Beauty, Elasticity, Ease of Movement, Strength, Lightness, and does not injure the skating
floor as much as the ordinary skate.

Every pair Warranted to be just what it is represented. Parties intending to

START A RINK,

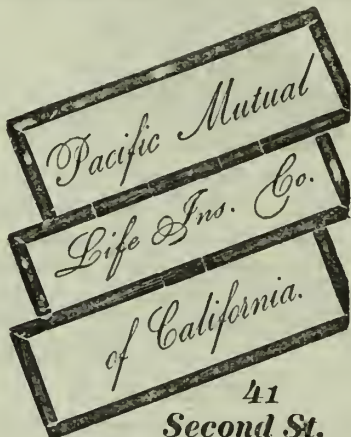
Should examine and test this Skate. Sample pairs sent C. O. D. on application.

For City, County or Rink Rights, call on or address

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No. 17 New Montgomery street (under Grand Hotel), SAN FRANCISCO.

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JOS. CRACKBON, - Secretary

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PIANO FORTES,



—AND—

Mason & Hamlin's Cabinet Organs.

L. K. HAMMER,..... Agent.
Also Importer of Sheet Music, Music Books and Mus-
ical Instruments. Finest Violin and Guitar Strings.
No. 230 J street, SACRAMENTO. 16v2-3m

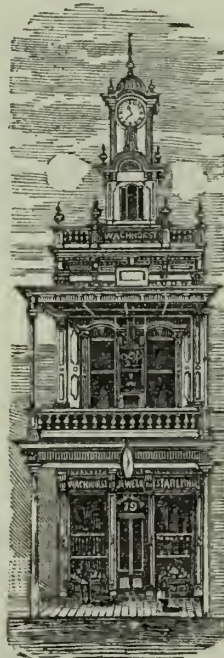
ARTIFICIAL LIMBS.

A. A. MARKS, No. 575 Broadway, N. Y. City,



the inventor and author-
ized United States Govern-
ment manufacturer of the
celebrated first premium
Artificial Limbs with Rub-
ber Hands and Feet, has
published a new and enlarged edition of his Illustrated
Pamphlet, of importance to all who have suffered im-
putations, especially to officers and soldiers who lost
their limbs in service. Copies sent free to applicants.
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DIFLES, SHOT-GUNS, REVOLVERS, Gun
Material. Write for Price List, to GREAT WEST-
ERN GUN WORKS, Pittsburgh, Pa. Army Guns, Re-
volvers, Etc., bought or traded for. Agents Wanted.
5v2-6m

WACHHORST'S TOWN CLOCK
—AND—
JEWELRY STORE.WATCHES AND DIAMONDS,
At 79 J street, between Third and Fourth, Sacramento.JEWELRY AND SILVERWARE,
At 79 J street, between Third and Fourth, Sacramento.THE LARGEST AND FINEST STOCK OF GOODS
AT THE VERY LOWEST PRICES.Every article of Jewelry bought in this establishment
WARRANTED strictly as represented.

Watches, Jewelry and Clocks Repaired

BY THE BEST WORKMEN.

All orders from the country promptly attended to.
7v2-3mWILCOX'S
IMPROVED STEAM WATER LIFTER,

With neither Engine, Piston, or Plunger.

The most Simple, Durable, and in all re-
spects the most ECONOMICAL of all Steam
Pumps. Uses the same steam twice in-
stead of once. Any person can run it.
They are used on the Central and Western
Pacific R. R. from Oakland to Ogden. They
are used for Water Works, Mining, Irrigation, and all
other ordinary pumping. Send for Descriptive Circular
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R. IRELAND,

The old Pioneer Broom Factory—Established Aug-
ust, '66. No. 32 J street, between Third and Fourth,
Sacramento. All kinds of

Wood and Willow Ware.

Manufacturer of Brooms, Brushes, Baskets, Matches
and General House Furnishing Goods, and sells Nichols
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10,000 Acres of Land,

Situated upon

GRAND ISLAND,

Twenty miles south of Sacramento,

FOR LEASE ON SHARES FOR ONE, TWO OR THREE
YEARS.

The construction of the levee is now going ahead.
This land CANNOT BE EXCELLED IN PRODUCTIONS.
Shipments can be made from any portion of the
island by all classes of vessels.

Apply to

G. D. ROBERTS,
401 California street, San Francisco.Or to
16v2-tfWM. GWYNN,
Lime Merchant, Sacramento.

J. BREUNER & CO.,

Importers, Jobbers and Manu-
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FINE FURNITURE,

BEDDING, MIRRORS, ETC., AT THE

Very Lowest Prices.

Nos. 166, 168 and 170 K street, SACRAMENTO.
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G. ERLIN,

MANUFACTURER OF

Office, School Furniture
AND SETTEES,

And all kinds of Office and Cabinet Work to order.
Office, No. 647 Clay street, near Montgomery, San
Francisco. SILVER MEDAL awarded for the best Cal-
ifornia-made Office and School Furniture, at the Eighth
Mechanics' Fair, 1871. 19v2-3m

The King of Mineral Springs is the German
Seltzer; and

Tarrant's Effervescent Seltzer Aperient

is its duplicate. Letters attesting its wonderful Tonic
Aperient and anti-Bilious qualities swarm in from every
source. The question has been settled whether artificial
medicated waters may not be equal to those which burst
sparkling from the earth itself. They can; and the
Seltzer Aperient, when undoubtedly pure and genuine,
proves the fact. Be cautious. Accept none
other.

SOLD BY ALL DRUGGISTS.



SAVE \$42! WHY PAY \$80?

THE

"HOME SHUTTLE" SEWING MACHINE,
Price \$38.

This machine being as good as the best, we have no
hesitation in recommending it to our friends as a supe-
rior machine for family use. We take pleasure in its
exhibition, and invite all to call and examine it before
purchasing elsewhere.

It has a straight needle and makes a Lock Stitch.
Send for a circular.
Agents wanted in every county. Each machine war-
ranted for five years.

E. W. HAINES, Agent.
17 new Montgomery street, Under Grand Hotel,
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W. H. GORRILL, Pres't.

F. MALOON, Sec'y.

Pacific Bridge Company

Are prepared to build Wooden and Iron Bridges on

SMITH'S PATENT TRUSS PLAN.

Plans and specifications furnished to counties or per-
sons desiring to build. Lithographs and prices sent on
application.Smith's Cast Iron Pier, durable as stone, and
adapted to resist rapid currents, put in at low rates.Address PACIFIC BRIDGE CO.,
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SEARCHER OF RECORDS,

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SAN FRANCISCO, CAL.

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GILES H. GAT.

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GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

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ifornia and Leidesdorff streets,

17 v16 SAN FRANCISCO

FINE LIVERY.

—THE—

Finest and Most Complete Livery Stable,
together with the Best Turnouts in the State, are at
WATSONVILLE, Cal. BILLINGS & ALEXANDER,
Proprietors.
P. S.—Their new Hotel will be in full blast within
fifteen days from this date. oc21-3m*

HILL'S PATENT EUREKA GANG PLOW,



The undersigned, Manufacturers of "HILL'S PATENT EUREKA GANG PLOWS," take this method of calling the attention of agriculturists throughout the Pacific States and Territories to the merits of the above named Plows, and offer the following reasons why they are entitled to preference over any other Plow in use.

They are made of the best material, and every Plow warranted.

They are of light draught, easily adapted to any depth, and are very easily handled.

They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!

These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,

which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by

HILL & KNAUGH,

And also by most leading Agricultural Dealers in the State. All others are invited to apply at once for Circulars, prices, etc.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great Plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the Best and Most Desirable Gang Plow in the world. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

Holbrook's Patent Swivel Plows,

For Level Land and Side Hill.



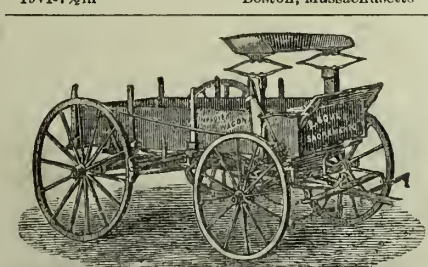
8 Sizes.
WON THE
HIGHEST PRIZE
at N.Y. State Trial,
1870, for Plowing
Sod & Stubble

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrows on level land, clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel Cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

Manufactured and sold by

F. F. HOLBROOK & CO.,
Boston, Massachusetts



FIRST PREMIUM AWARDED at the State Fair of 1870; also First Premium at Mechanics' Fair, San Francisco, 1871; and Silver Medal and First Premium for best Farm Wagon, and First Premium for the best improved Thimble Skein at State Fair, 1871. Also State Fair GOLD MEDAL for 1871.

E. SOULE,

Corner Tenth and I streets,

ap22-3m

SACRAMENTO, CAL.

JACKSON MICHIGAN WAGONS.



The large sale of the above WAGONS has induced a number of persons to try and sell other Eastern-made Wagons, none of which have any proof that they will stand in this dry climate. JACKSON WAGONS have the highest certificates from use for ten to fourteen years, consequently the buyer runs no risk in purchasing the Jackson Wagons. All sizes for sale low by

J. D. ARTHUR & SON, San Francisco.
N. B.—Warranted for three years. 21v2-3m

BAKER & HAMILTON, Sacramento and San Francisco,

—IMPORTERS OF—



HARDWARE,
Farming Implements,
Machines, Etc., Etc.

Gang Plows,

Single Steel Plows,

Iron Plows,

Harrows,

Cultivators,

Seed Sowers,

Grain Drills,

Etc. Etc.

18v2-3m

FARMERS and MECHANICS

Are especially invited to call and see a Model of the

Self-Opening and Self-Closing Gate,

The Simplest and Most Practicable now in use.

—ALSO THE—

Verticle and Straight Mould-Board Plow,

Which is Cheaper of Construction, opens its furrow Wider and Cleaner, and with 20 per cent. Less Draft than ordinary Plows of the same cut.

These Plows are being manufactured TO ORDER by HILL & KNAUGH, of Marysville, and S. CONRAD, of Petaluma. Rights for sale by

WIESTER & CO.,

No. 17 New Montgomery St., San Francisco, Cal.

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OAKLAND.

Established in 1852.

CITY DEPOT,

317 Washington Street,.....SAN FRANCISCO.

The Proprietor having upwards of 100 ACRES OF NURSERY GROUNDS, well stocked with all the leading and best varieties of Fruit Trees and Fruit Bushes; also Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms and with dispatch.

Choice Roses and Pot Plants

of every variety. Trees and Plants securely packed to travel any distance.

FOREST TREES

of Australia, Europe China and Japan; in fact, we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty, in furnishing a place without being obliged to go from one Nursery to another.

W. F. KELSEY, Proprietor.

21v2-3m

TREES

**AND PLANTS FOR SALE AT THE
LIBERTY NURSERIES,**

Petaluma, Cal.

The stock I offer for sale this season is as varied and complete as can be found at any Nursery on the Pacific Coast. It consists of

Apples, Pears, Plums, Peaches, Apricots, Nectarines, Figs, Quinces, Cherries, Oranges, Pomgranates, Mulberries, Grapes, Currants, Gooseberries, Blackberries, Raspberries, Strawberries, etc.

Almonds, English Walnuts, California and Eastern Black Walnuts Butternuts, American, Japan and Spanish Chestnuts.

Locusts, Maples, Elms, Poplars and Willows. Evergreen Trees and Shrubs in great variety. Peciduous Flowering Shrubs in variety, including a choice collection of Roses.

Also a choice collection of Bedding and Conservatory Plants, selected from the best new varieties (importation of 1871).

For complete list send for Descriptive Catalogue. The above stock of Trees and Plants will be sold

At the Lowest Market Rates

of the reliable Nurserymen, and guaranteed to be true to name and label.

All orders from unknown persons must be accompanied with the Cash.

TREES packed in the best manner and delivered to Railroad or Boats in Petaluma for shipment to all parts.

Address

W. H. PEPPER,

21v2-3m

Petaluma, Cal.

Orange Trees! Orange Trees!!

I now offer to Planters and Dealers a large and splendid stock of ORANGE, LEMON, LIME, and ENGLISH WALNUT TREES. Also, a limited amount of

Grafted Orange on Lemon Stock.

At Lowest Market Rates. Address P. O. Box 265, Los Angeles, Cal.

18v2-6m

THOS. A. GAREY.

J. ROCK'S NURSERIES,

SAN JOSE.

Fruit and Ornamental Trees.



The attention of every Planter, Nurseryman and Dealer is called to our large and superior stock of



Fruit and Ornamental Trees,

Grape Vines and Small Fruits,

Shrubs and Plants, Etc., Etc.,

IN LARGE QUANTITIES, AT LOWEST RATES.

Catalogue furnished on application.

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R. LEVY,

Wholesale Dealer in

Foreign and Domestic Fruits.

Country Orders promptly attended to.

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SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address **STORRS, HARRISON & CO.,** 1v2-6m Painesville, Lake Co., Ohio.

Seed! Seed! Seed!

Wheat—Algiers, Australian, Sonora, Club Chile, Oregon.
Oats—Norway, Oregon, Surprise, Coast, Wild.
Peas—Canada, Windsor, Waco.
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Potatoes—Early, of all kinds.

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N. E. Corner Clay and Davis streets, Produce Exchange Building, San Francisco.

Depot for the Pacific Oil Cake Meal. 19v2-3m

W. R. STRONG,

Commission Merchant,

And Wholesale Dealer in every description of

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California and Tropical Fruits, Nuts, Honey, and Agricultural Produce,

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Orders for all classes of Merchandise filled and forwarded with dispatch. 6v2-3m

New Seeds and Plants.

Just received, a prime lot of NEW ALFALFA CLOVER SEED HYACINTH GLASSES, DUTCH BULBS, Etc. Always on hand a fine assortment of all kinds of SEEDS, BULBS, PLANTS, FRUIT TREES, at the Old Stand.

E. E. MOORE,

Importer of Seeds, Bulbs, Plants, Etc.,

425 Washington street, San Francisco, Cal.

Send for a Catalogue. 16v2-4f

1871.

1871.

Farmers, Look to Your Interests.

GRASS, CLOVER and FIELD SEEDS

On hand, in lots to suit, at lowest market rates. Genuine Alameda California grown, Red and White Clover, Timothy Seed (Oregon and Eastern grown). Genuine Norway Oats. Also, choice varieties Seed Potatoes, Peas, Beans, Cabbage, Onion and Melon Seeds. Address **JOHN, C. DALY,** No. 25 Front street, Sacramento. P. O. Box, No. 519. 16v2-3m

H. K. CUMMINGS.

1868.

J. M. MAXWELL

1871.

HENRY K. CUMMINGS & CO.,

Wholesale Fruit and Produce Commission House,

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with those of the producer. 4v23-1y

SEED WHEAT.

THE CELEBRATED EXCELSIOR SEED WHEAT CLUB OHIO, AUSTRALIA & SONORA WHEAT, FOR SEED.

For sale in lots to suit by **McNEAR & BRO.,** 15v2-3m 302 Davis street, San Francisco

California Cotton Growers'

AND MANUFACTURERS'

Association.

PLANTATION OF 30,000 ACRES IN KERN COUNTY.

OFFICERS FOR 1871-2.

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LEONIDAS E. PRATT.....Attorney.

OFFICE—Room 20, 125 Sansome street, San Francisco. 6v2-3m

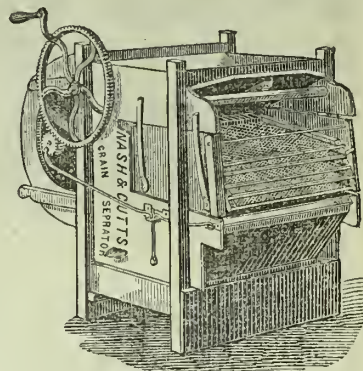
Shell Your Corn.

The **LITTLE GIANT** shells four bushels of corn per hour, and costs only \$1.50. If you ever buy one, and it fails to give perfect satisfaction, you can get your money back by returning the Sheller. We would recommend lazy men and women not to buy it, for it is an enemy to both. Local or traveling agents will be supplied with Shellers at low prices, and given sole agencies to sell in their town or county.

WIESTER & CO.,

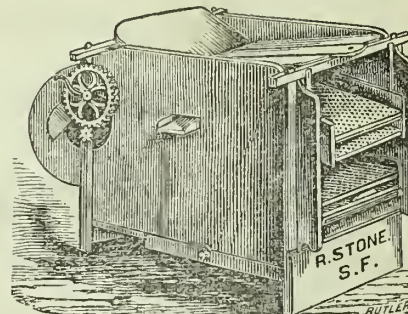
17 New Montgomery street, San Francisco.

NASH & CUTTS' FANNING MILL AND GRAIN SEPARATOR.



FIRST PREMIUM at the California State Fair of 1870 over all other Mills in the State, after a Thorough Practical Trial by the Committee of Firms, with ALL KINDS OF GRAIN. It is the Cheapest and Best Mill in use, and the only one that will completely separate Barley, Oats, Smut, Chess, and all kinds of Grass and Weed Seed, from Wheat, and at the same time separate perfectly the different qualities of Wheat. Also separates Oats and all foul seed from Barley, or Barley and Wheat from Oats. It will clean Beans, Peas, Corn, and all kinds of grain, perfectly, and more rapidly than any other Mill ever built. For sale by **NASH, MILLER & CO.,** at Manufacturing, corner K and Tenth streets, Sacramento, Cal. 26v1-3m

THE PATENT Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating Grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far exceeds anything that has been invented for the separation of Grain. It has been thoroughly tested on all the different kinds of mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to **R. STONE,** 25v1-2m 422 Battery street, San Francisco.

THE CELEBRATED CHALLENGE FEED MILL.

For Farm use and Custom work. The only Practical Farm Feed Mill ever invented. Can be used with from one to eight-horse power, and grinds from 250 lbs. to one ton of barley per hour. Price of Mills from \$75 to \$100, according to size. Adapted to Wind, Water, Steam, or Horse Power. The grinding surface is adjustable, and can be replaced in fifteen minutes at an expense of one dollar to one dollar and a quarter. Over 5,000 now in use. Every Mill warranted to give satisfaction. For sale by all leading agricultural firms on the coast. For further particulars send for circular.

M. S. BOWDISH, General Agent.
With Hawley & Co., cor. California and Battery sts., 13v2-6m San Francisco.

Longshore's Combination Tool.



This device is just what its name indicates. As a Kitchen Tool it is indispensable. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

WIESTER & CO.,

17 New Montgomery street (Grand Hotel), SAN FRANCISCO.

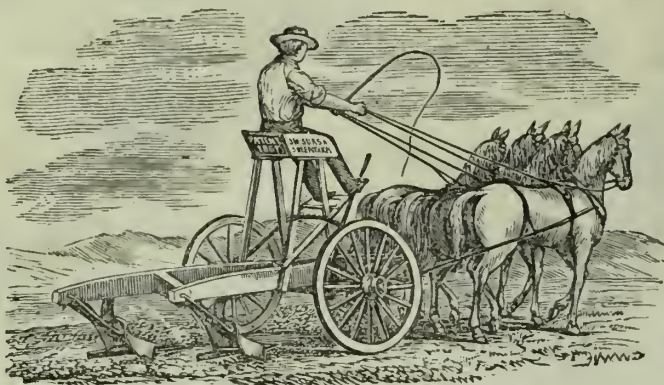
E. J. FRASER, M. D.,

SURGEON,

No. 102 Stockton Street, San Francisco, Cal.

THE CELEBRATED CALIFORNIA SWEEPSTAKE GANG PLOW.

Cheapest and Best Gang in the U. S.



2,000 in use in California.

SWEEPSTAKE GANG PLOW.
Sursa's Patent.

The extraordinary sale of this Gang Plow during the past four seasons, is owing to its possessing so MANY IMPORTANT ADVANTAGES OVER ALL OTHER GANGS IN THE MARKET, among which are the following:

The remarkable simplicity of its construction renders it impossible for it to get out of order, and enables them to be built exceedingly strong and light.

By means of powerful levers, conveniently placed, it is raised quickly and easily out of the ground, or readily pressed into it.

It will plow from one to ten inches deep, and ALWAYS retains a level position at any desired point. No other attempts this.

It is the most portable plow in use, and is the neatest and most compact.

The draft is very light, and a boy ten years old can plow as much as two men with single plows, and in a much superior manner.

Extra parts can be obtained at the factory, and are warranted to fit, as all are made from the same pattern.

Those offered for sale the present season are greatly improved, have two levers, and made in the most thorough and workmanlike manner possible, with previous defects corrected, and several important improvements added.

The extensive sale of the Sweepstake Gang has induced numerous imitators to put in market inferior Gangs, which are weak, clumsy, and void of any of the essential points which make a good Gang.

The SWEEPSTAKE GANG is the standard of merit by which all others judge their Gangs, and many use the name to sell their inferior article. The Sweepstake Gang is only manufactured by the "SWEEPSTAKE PLOW CO., at San Leandro, and farmers should order direct of us, or see that they get the SWEEPSTAKE GANG, and not an imitation.

No Gangs Sent on Commission. Orders Filled as Received.

PRICES at SAN LEANDRO: With two extra Points, \$75; with Collins' Moulds, Points and Lands (no extra points), \$85. TERMS CASH.

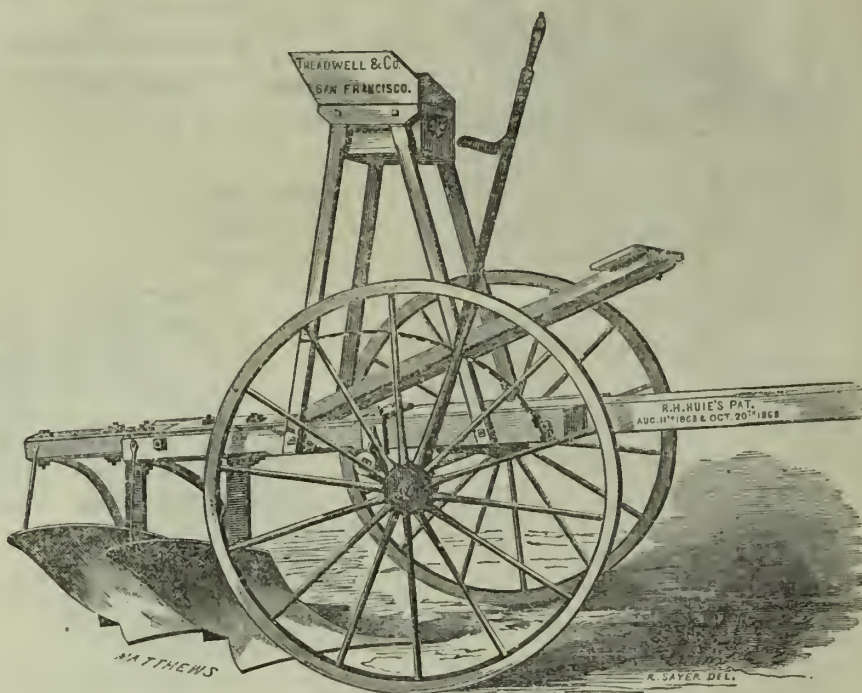
SWEEPSTAKE PLOW COMPANY, SAN LEANDRO.

Office:---13 to 19 Front Street, S. F.

BAKER & HAMILTON, Sole Agents, San Francisco and Sacramento.

HUIE'S PATENT GANG PLOWS—PRICES REDUCED.

Having purchased the Gang Plows imported by Treadwell & Co., at very low figures we are enabled to offer them at greatly reduced prices—below the cost of importation—giving a Gang combining Simplicity, Utility, Durability and Low Price. They are selling very rapidly and we would advise early orders. This is the cheapest GOOD Gang offered. Being boxed, the transportation is low. PRICE OF STEEL GANG, \$60. PRICE OF COLLINS' GANG, \$75. WITHOUT EXTRA SHARES. For an order of five Huie Steel Gangs we will take off ten per cent. Address BAKER & HAMILTON, Manufacturers and importers of all kinds of Agricultural Implements and Hardware, San Francisco and Sacramento.



HUIE'S PATENT GANG PLOW.

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REMOVED TO
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MONTGOMERY ST.
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THE WORLD RENOWNED
Howe Sewing Machines
are taking the lead. Daily manufacture, about 500 machines. I also have the agency for E. BUTTRICK & Co.'s Celebrated PATTERNS for Ladies' Misses' and Children's garments. Send Postage Stamp for Illustrated Catalogue. H. A. DEMING, Ag't, de2-1m 113 Kearny st., S. F.

GEO. B. BAYLEY,
Corner Sixteenth and Castro Streets, OAKLAND.



Importer and Breeder of
CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale.
Address, with stamp, P. O. Box 659, San Francisco.

RAMIE! RAMIE! RAMIE!



The Most Sure and Profitable Crop that our Farmers Can Raise.

WILL YIELD FROM \$100 TO \$300 PROFIT PER ACRE PER YEAR.

Full information furnished, and Cuttings for Sale by

THE PACIFIC RAMIE COMPANY,

P. O. Box 1539, San Francisco,

Or J. S. FINCH, Haywards, Alameda County, Cal.

19v2-2m



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ROCHESTER, N. Y.

J. ROSS BROWNE,
Office, No. 45 Montgomery Block,
SAN FRANCISCO, CAL.

Ramie Roots for Sale,

IN LOTS TO SUIT.

BY JOHN S. DRURY,

At C. F. RICHARDS & Co.'s Drug Store, S. W. corner of Clay and Sansome streets, San Francisco.

And by W. W. DRURY, at RAMIE NURSERY,

On American River, near Central Pacific Railroad Bridge, south side, Sacramento.
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GEO. F. SILVESTER,

SEEDSMAN,

Importer and Dealer in all kinds of

Vegetable, Flower, Field, Fruit and
Tree Seeds,

GARDEN TOOLS, PLANTS, TREES,

California Tree and Flower Seeds, Etc.

No. 317 Washington Street,

Between Batter and Front.....SAN FRANCISCO.

6v2-1y4p

TREES AND PLANTS

By the 100, 1,000 or 100,000, both

Wholesale and Retail, at the

Lowest Market Rates, at the **CAPITAL NURSERIES,** SACRAMENTO, CAL.

Send for Catalogue, Price List and printed directions.

ROBERT WILLIAMSON, Proprietor.

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SAN JOSE REAL ESTATE FOR SALE.

Farms from \$12 to \$100 per acre.
Garden Land from \$100 to \$300 per acre.
City Lots in San Jose or Santa Clara on easy terms.
Well Improved Suburban Homesteads and Desirable City Property for sale by

J. A. CLAYTON, Real Estate Agent.

Office on Santa Clara street, opposite Auzerais House.
Rents collected, Tax paid, and Money invested on first-class security. 20v2-3m

Floral Guide for 1872.

Containing seventy-two pages and Two Beautiful Colored Plates nicely illustrated, giving plain directions for the cultivation of nearly a THOUSAND VARIETIES of Flowers and Vegetables. Full bound with your name in gilt, post paid, 60 cts. Paper cover and one colored plate, 10 cts.

Address, **M. G. REYNOLDS,**
Rochester, N. Y.
22v2-6m

PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, DECEMBER 9, 1871.

[Number 23.]

A New Reclamation Enterprise.

It is well known to all who are conversant with the natural resources of California, that in the valleys and river bottoms there are hundreds of thousands of acres of valuable land subject to overflow, which, if redeemed, would be the most fertile soil in the State. To accomplish this result requires a large outlay of capital, in the building of levees, dykes and other necessary improvements. In Holland, miles of territory are protected from the encroachments of the sea by artificial means, and are drained by a system of dykes, which extend like a network all over the country; and the soil, thus redeemed, is invariably more prolific than any other.

We learn that J. Ross Browne, while in London some months ago, presented this subject of reclaiming swamp and overflowed lands in California, to a number of English gentlemen who are largely interested in such enterprises, and a "Syndicate" was formed for the purpose of engaging capitalists to furnish the requisite means to carry through such an undertaking in this State. A few days since a party consisting of Hon. E. B. Eastwick, M. P., J. F. Dalrymple Hay, Esq., Engineer, etc., and W. S. Campbell, arrived here for the purpose of making an examination of the resources and value of overflowed lands. These gentlemen have made a thorough investigation of lands in Sacramento and San Joaquin valleys and in the vicinity of San Francisco Bay. The examination is reported as very satisfactory, and the result will probably be the introduction of a large amount of English capital for this purpose. All of the party except Mr. Campbell will return to England at once, to make their report. Mr. Campbell, who was lately American Consul in Holland, and a resident of that country for eighteen years, is thoroughly familiar with the system of dykes, which guard its lands from the sea, and he brings to this enterprise valuable experience, gained from years of personal observation.

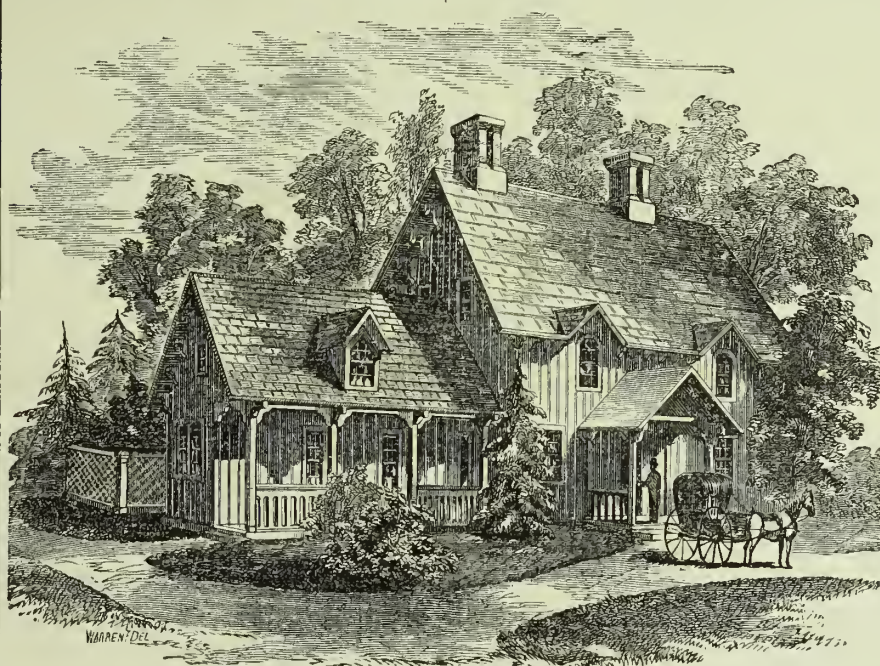
We look upon this undertaking as one of the most important ever commenced in California, profitable alike to the people of the State at large and the capitalists who invest in it. The great need for the development of our resources is money, which cannot be obtained here at low rates of interest, and a fine field is offered for the outlay of foreign capital, which will meet with a return many fold greater than could be derived from an investment in the old and settled countries of Europe. We hope to see this enterprise become a success to its full extent, as it will contribute to the prosperity of the State, and be the means of securing the further introduction of foreign capital, which is always awaiting investment, where safe and permanent profits are assured.

GRAIN SPROUTING.—Since the late rains, the grain in San Joaquin Valley is coming up beautifully in the summer-fallow and volunteer fields.

A Design for a Country Residence.

We herewith present a design for a very neat, commodious and withal not a very expensive country residence. The general outlines of the dwelling, with shrubbery, flower garden, walks, drive-ways, etc., are

which may be glazed, opens into the staircase hall—No. 4. This hall contains a flight of stairs to the chambers above, under which is another flight leading to the cellar. This hall also opens into the following rooms: No. 5, office or library, for the master of the house, and so situ-



DESIGN FOR A COUNTRY RESIDENCE.

decidedly picturesque, and in good keeping with the position and means of a well-to-do farmer. The main building forms a

ated as to be convenient to the door opening upon the recessed verandah—No. 6.

No. 7 is the kitchen, 16 feet square;



GROUND PLAN.

square 36x36 feet, while the L, projecting to the left of the front entrance, is 18x26 feet in size.

Referring to the ground plan, the front entrance porch—No. 1, opens into a vestibule—No. 2, five feet by nine in size. From this vestibule we enter the parlor—No. 3, which is 18 feet square and contains a good-sized closet. At the further end of the vestibule a door, the upper panels of

No. 8 is a store-room 7x8, and No. 9 is a pantry, 8 feet square, containing a pump and sink, and leading into a private yard, No. 10. This yard is enclosed with a lattice fence 7 feet high. No. 11 is the living room, 15x16 feet in size, containing a large closet, and communicating by means of the passageway, No. 14, with the family bedroom, No. 12. No. 13 is a privy, opening into the enclosed yard.

The second story contains three large chambers and a child's bedroom, besides a hall and several closets in the main building, and a servant's bedroom, a large clothes-press and a bathing room in the L.

The third story, or attic, furnishes space for three large bedrooms and numerous closets. All the lower windows of the main building should be shielded by hoods two inches wide. The roof projects three feet all around, and is supported on plain 3½-inch brackets.

The Rains.

The rains which have thus far fallen have been sufficient to not only change the aspect of Nature, but have also wrought a most decided improvement in the feelings of business men generally. Fears were beginning to be entertained that the serious loss brought about by two successive dry winters was to be intensified by a third year of suffering and drouth. The rain has already been sufficient to tinge the hills with green and start the plows to running along most of our valleys and hillsides. It has fallen, thus far, in such frequent showers, and the weather has been so mild that the full benefit has been obtained of all the water which we have received.

The rainfall for the season at various localities throughout the State is reported as follows:—In this city 4 inches; at Nevada and Grass Valley, 7 inches; at Red Bluff, 3; at Napa, 3½; at Suisun, 2; at Healdsburg, 2; at Petaluma, 2½; at Antioch, 1½; at Stockton, 1½; at Visalia, 1½; at Monterey, 1 1-6. In the San Joaquin Valley, generally, the figure ranges from an inch to 2 inches. During the past week dense fogs have prevailed very generally throughout the central portions of the State. The grass is growing finely and everything is looking favorably for a good season.

BRANDY FROM MANZANITA BERRIES.—The Nevada Transcript has the following: I. J. Rolfe and Josiah Rogers have started the manufacture of brandy from manzanita berries. We visited Mr. Rogers' wine house yesterday and witnessed the process of manufacture. The berries are first fermented in a vat with water and then the liquor is distilled. It has more body than grape brandy, and is much smoother to the taste than grape brandy of the same strength. Messrs. Rolfe and Rogers are highly pleased with their experiments, and they propose to make, this year, about 200 gallons of manzanita brandy. The berries are very abundant and can be gathered at one cent per pound. Another advantage is that they can be kept in sacks like grain until required for use, while grapes must be pressed when taken from the vine. The entire cost of cultivation is also saved, as manzanita grows in such quantities that a hundred distilleries could be supplied without making much of a drain upon the crop. If the liquor improves with age, as does grape brandy, it will be a great favorite, as in its new state it is much more agreeable to the taste.

The parties mentioned above have made application, through the agency connected with this office, for a patent for the manufacture of brandy from manzanita berries. It is said that from 100 pounds of manzanita berries three gallons of brandy can be manufactured, while it takes from 75 to 80 pounds of grapes to make one gallon. Furthermore, the former makes the best article.

MECHANICAL PROGRESS.

Audacity in Invention.

As a rule, useful inventions are the offspring of the most deliberate calculation, and their practicability is likely to be in the same ratio as their correspondence with the teachings of experience. Sometimes, however, as if to confound the wise, there occurs a marked exception to the rule. Among these was the example of a steel headed rail, now quite extensively adopted. For years an effective method of welding a steel top to an iron web had been sought in vain, until an audacious inventor proposed to put them together without welding.

The steel cap was simply so shaped that the pressure of the train would tend to converge its lateral portions upon the web below. Few believed that the plan would work; but practice showed that the jarring concussion of the wheels that had knocked the caps from other compound rails but hammered this the closer to its place, and so a daring thought and bold experiment counted for more than the most careful consideration would have done.

In another instance an inventor evolved from his inner consciousness a plan of setting the loose tires of wagon wheels without removing and heating them, as had been previously done in tire-setting machines. He proposed to compress an iron strap around the tire without taking it from the felloes, and by thus upsetting the metal upon itself diminish the diameter of the tire until it came firmly and fixedly to its place.

Most people would say that to thus upset cold iron would take more power than could be conveniently applied to the apparatus. But the inventor, nothing daunted by the apparent difficulty, tightened the iron-compressing strap with a four-foot lever and a two-inch screw; found the experiment a complete success, and built up a prosperous business upon the patent by which he secured the improvement. Examples like these, while they should not lead to hare-brained enterprises, are sufficient to show that sometimes, at least, a little courage gives better results in invention than placid and cautious "common sense."—*American Artizan*.

IRON STEAMBOAT BUILDING ON THE MISSISSIPPI.—The question of building iron steamboats, to take the place of wooden ones now plying on our Western rivers, is beginning to receive serious consideration. A correspondent of the *St. Louis Democrat*, writing from Chester-on-the-Mississippi, says that an agent of an English company, from London, not long since visited that locality with a view to the establishment of a yard to build iron steamers. The location is on the Illinois shore, but forty miles away from the great iron fields of Missouri, and with the water lower in the Mississippi than has been known since 1838, there is now a depth of thirty or forty feet for a distance of at least one and a half miles the whole width of the river.

It is claimed that "with the necessary facilities," iron steamers can be as cheaply built there as anywhere in the United States, or even on the Clyde. Arrangements are said to be now making for the manufacture of iron, and practical men, who expect to invest millions of dollars as fast as the work can be prosecuted, say that iron can be made at Chester \$10 per ton less than at any other place in the United States. When this fact shall have been satisfactorily demonstrated, the destiny of the place will be settled beyond question.

THE ROLLING OF GUNBOATS—A NEW FACT ESTABLISHED.—The British gunboats *Bustard* and *Kite* were recently subjected to experiments in order to test their rolling motion in a sea way, and discover, whether it is easier with the eighteen-ton gun in its position on the platform level with the fore deck, or when it is lowered into the well beneath; and, although the weather was not sufficiently rough to subject the vessels to a severe test, yet the result showed that they are much steadier when the gun is up in its position than when it is below. The *Bustard*, with her gun on deck, made only eleven rolls per minute, and the greatest roll was from 7° to port (leeward), to 4° to starboard (windward), but with the gun below she made fourteen rolls per minute, the greatest roll being 9° to port to 13° to starboard, being three rolls per minute more with just twice the amount of heel. A similar result was obtained with the *Kite*.

Chapin's Transparent Waterproof Varnish.

The amount of labor required to keep finished machinery untarnished, renders a transparent waterproof varnish very desirable. In a recent visit to the Collins Co.'s works, at Collinsville, Conn., we found them using such a varnish on their polished plows, to prevent rust in transportation. Inquiring as to its efficiency, we found that whereas before using it they had been at great trouble and expense in repolishing after transportation, since its use the difficulty has been entirely obviated.

As an illustration of its efficacy, we were shown a machete, or Spanish knife, about two feet long and two inches broad, one side of which had been varnished. This had been repeatedly plunged into salt water and dried, when it was found that on the varnished side the polish was as bright as ever, while the opposite side was covered with a thick coat of rust, making it almost impossible to realize that it was ever polished. We also saw portions of the varnish removed by a solution of potash and water from polished plows, which had been on more than two years, showing as bright a polish as ever.

For the transportation of machinery or any polished metal this varnish is invaluable, as it does away with the use of white lead and other substances now employed which impair the appearance of the metal and injure the finish. In point of economy it is desirable, as one gallon will cover more surface than several gallons of white lead slush, and is, at the same time, far more easily removed.

By the use of this varnish, machinery can be kept bright with a much less outlay of time, and will look nearly as well as an unvarnished surface, and, certainly, much better than most machinery is kept. It is claimed that it is equally valuable for any surface exposed to the weather. It also renders paper or cloth perfectly waterproof and, at the same time, transparent. C. V. Chapin & Co., Collinsville, Conn., are the manufacturers.—*Iron Age*.

INDURATION OF WOOD.—Wood for use should be guarded against two sources of destruction, decay and abrasion. For the first, there are numerous efficacious preventives, differing in character and cost; for the other there is at present none that can be relied upon. Wood has been saturated with a chemical substance in such manner that, when impregnated with a second, a solid substance would be deposited in the pores, thereby securing induration and consequent hardening. This process, whatever the chemicals used, is most efficiently carried into practice by forcing the chemicals in solution lengthwise through the wood by hydraulic pressure. We believe that experiments in this line, if successful, would lead to important public benefits, and also prove remunerative to the inventor. As the material would be both water-proof and fire-proof by the process, there would be many uses other than that designated to which it could be advantageously applied in engineering, and more than in one department of the arts.—*American Artizan*.

HOW THE FRENCH BUILD.—The French practice in building is a good one. Instead of using flimsy lath for thin partitions, they employ stout pieces of oak, as thick as garden-palings. These they nail firmly on each side of the framing of the partition, and fill the space between with rubble and plaster of Paris. They coat the whole with the plaster. The floors are managed in the same way, as well as the under side of the stairs. Houses are thus rendered as near "fire proof" as if built of stone throughout. Nottingham, England, where they have gypsum in the neighborhood, as in Paris, they form their floors and partitions in the same solid manner; consequently a building is rarely burned down in that populous manufacturing town.

A new horse shoe has come into general use in Paris. It is imperfectly described as being a "narrow rim of iron, which gives perfect protection to the edge of the hoof, without cramping its sole." It is said to require much less weight of metal, and therefore is cheaper. Though not specified, we suspect that nails are not used. It is said to give great satisfaction—it is called the Chanlier Horse-shoe.

SHAPING METALS—SOMETHING NEW.—In a process lately proposed for shaping metals, a mold is made in sections to suit the article required, and a sheet of metal is placed in it, after which a cover is clamped on to the mold, and water pressure is conveyed to the interior by a pipe, whereby the metal is expanded to the counterpart of the mold.

SCIENTIFIC PROGRESS.

Are Men to Fly.

Darwin tells us that even in the upper region of the air, near the summits of the Andes, vultures may be seen floating onward for miles upon motionless wings. What is the secret of this flotation? Gravitation acts as forcibly on the substance of the bird as on that of the animal. Nor can we believe that there is any buoyancy, properly so called, in the bird's body or wings.

Those vultures, which seemed to float steadily through still air, must have received support from the air in one or more of the three several ways. Either by swift motion, acquired before the floating began and slowly reduced through the effects of aerial resistance, or by the action of aerial currents through which they were carried, or else, while seeming to float horizontally, they were in reality traversing a slightly sloped descending path. Neither of the two former explanations seems available, because the floating motion is continued so long that the frictional resistance of the air would almost certainly have destroyed a large share of the original motion through the air. This would equally happen whether the bird had in the first place urged its way swiftly through the air, or had floated itself off, so to speak, upon a swiftly moving air current. On the other hand, there would seem to be no valid objection against the third explanation; for a single observer, at rest, would have no means of determining whether a bird was sailing along horizontally, or gliding down a gentle incline. But it matters little which explanation of the three we except as the most plausible. The point to be chiefly noticed is the fact that, a heavy body—for the vulture is no chicken, so to speak—can be sustained, for long distances, merely by the supporting action of the air.

There can be little doubt that it is only on account of the perfect steadiness of their motion through the air that they are thus supported. The efforts of aeronautical mechanicians must be directed to secure a similar steadiness of motion for aerial facilities. Granted this, there can be no reason why the powers of steam and iron should not avail to secure an aerial motion even surpassing in rapidity the flight of the swift birds. Unless we are willing to believe that birds fly by some power distinct from any which physical science deals with, we seem justified in believing that the bird may be matched, or surpassed, by the flying machine, as surely as the swiftest animals are surpassed by the locomotive. It is encouraging to consider that the actual amount of power necessary to convey a weight through the air (if that support is derived directly from the air), is very much less than that required to convey the same weight by sea or land. In the presence of failing coal supplies, this consideration will one day assume first-rate importance. *Spectator*.

SCIENCE IN AGRICULTURE.—A writer in the *Western Rural* makes the following sensible remarks: "The sooner we throw away the phrase Science of Agriculture, and substitute Science in Agriculture, the sooner we shall be on the high-road to scientific farming. It rests upon all science, taking only a portion here and there, just as the animal crops the herbage as he passes along. He can live and even grow fat upon but few varieties, but for his full sustenance craves many. So of the farmer. He can get along better than any other profession with but little knowledge except that of mere art. The moment he reaches after that higher knowledge, it should be in such directions as will enable him to profit by it. 'The principles of science, and not the bare manipulations of art,' is what he should attain; but as a practical man, science, only so far as it may bear upon, or can be applied to his practical art."

FREEZING BY MECHANICAL ACTION.—M. Foselli has announced to the French Academy of Science that he had succeeded in producing an amount of cold just below the zero of the Fahrenheit scale, by simple mechanical action creating rapid evaporation. He employs a wheel formed of a spiral tube, both ends of which are open, set vertically and half immersed in the fluid to be cooled, so that the latter passes constantly through the whole length of the tube, half of which is constantly above the liquid, and being wet gives rise to active evaporation and consequent refrigeration within it. The evaporation is increased by a small fan. The principle of which M. Foselli here avails himself is of course well

known, but the multiplication of the point of evaporation by mechanical arrangement according to the method which he has originated, is certainly ingenious; and in hot, dry weather, even a disc of iron turning rapidly in liquid would produce refrigeration.

Another Grand Scientific Project.

Among the most noticeable events in the progress of science, at the present time, is the efforts that are being made to notice the water and air forces at work on various portions of the earth, to so arrange and present them to the world as to enable man to avoid the dangers which they threaten, or take such direct advantages of the forces themselves as to make them subservient to his interests. We have noticeable instances of progress in this direction in Maury's charts of ocean currents, his publications with regard to the laws which govern air currents or storms, and the great work in which the U. S. Board of Topographical Engs. are now engaged in making daily reports upon the temperature of the atmosphere, position of the barometer, and direction of air currents, etc., throughout the United States.

The above work has thus far been more or less limited in its scope and usefulness, having been confined mostly to the territory of the United States and the seas, gulfs and oceans which surround them. But now we hear of another and still grander project, proposed by Lieut. Maury, for noticing the forces at work on the entire face of the globe, and distributing the information obtained for the benefit of producers and mankind in general. He proposes, with the aid and co-operation of the various Governments of the world, and the use of all the appliance of steam and electricity, to establish a vast system of weather and crop observations and reports, which shall keep producers in all lands informed of what is going on all over the globe, so that they may know wherewith they are competing and what their prospects are in the market.

"In this age of steam and rapid communication" remarks a cotemporary, "the grain-grower of Illinois is a competitor of the grain-grower of the Danube, and the cotton-planter of Georgia must measure the value of his crop by the products of the fields of India and Egypt. That this measure may be accurately made as the seasons advance, Prof. Maury has projected the scheme referred to. He believes that man has already in his hands powers and agencies which will enable the grain-grower of the West and the cotton-planter of the South to know, as the season progresses, the probable supply of the staple in which he is interested in all quarters of the globe, and when the times of harvest come in the different climes, to be informed with approximate precision of actual quantities sent into the market. The benefits of the scheme are apparent; its practicability is no more doubtful than of many other great undertakings which have been carried through to success seemed to be when they were first projected."

Frost Work Imitated.

Among the curiosities of recent scientific discovery, may be instanced that made by M. Bertsch, and turned to practical account by M. Kuhlmann, the celebrated chemist. M. Bertsch has found that Epsom salts, or sulphate of magnesia, dissolved in beer, together with a small quantity of dextrine, or artificial gum, applied to a pane of glass with a brush, will, on crystallizing, produce the identical designs formed on the glass by frost in cold weather, with this improvement, that the liquid may receive any color whatever, at the option of the operator. M. Kuhlmann, however, conceived the idea of going a step further, and transferring those fairy-like creations to stuffs and papers. By means of a powerful hydraulic press, the minutest details of the figures in question were duly imprinted on the soft metal, and a copy of them in relief was then obtained by galvanoplastics. But in the impression of cotton stuffs, the patterns must be continuous, whereas in M. Kuhlmann's plates the lines at one end would fail to coincide with those at the other, causing disagreeable interruption in the printed designs. To overcome this, he ingeniously effected the crystallization of the cylindrical surface of a roller. A slight rotary motion imparted to it, prevents the liquid from accumulating at any particular point before it is evaporated.

SILVER stains may be removed by bleaching with chlorido of copper, and then washed out with hyposulphite of soda, and afterwards with water.

CORRESPONDENCE.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.—CONTINUED.

(By our Traveling Correspondent.)

Saratoga

is a village of about 200 inhabitants, situated about 10 miles south of San José, and within one mile of the celebrated Saratoga Springs, from which the town derives its name. It was formerly called McCarthy'sville, after one of its residents, since deceased. It contains two or three good hotels, the principal one of which is kept by J. B. Hyslop.

Tannery.

An institution of this description is carried on at this place by the Hon. C. Macclay, who is also postmaster and principal merchant of the little village. This tannery is able to turn out 4,000 sides per annum. The most improved machinery that can be brought to bear in each department is used. Peach-oak bark is used for tanning and is abundant in the vicinity, worth at present \$12 per cord. Eight cents per lb. is being paid for hides. From two to six men are employed. The

Saratoga Paper Mill

is situated in the vicinity; E. T. King & Co., proprietors. Their works are run by a steam-engine of 75-horse power, manufacturing straw paper only. The capacity is 200 reams per day, consuming three tons of straw. This manufactory ranks among the first of its kind in the State, and before long it is the intention of the proprietors to make all kinds of paper. Straw wrapping-paper, at this writing, is worth \$1.50 per ream at the mill. Twelve men are regularly employed.

Fino Ranch.

W. H. Scott, Esq., is possessor of 123½ acres in the foothills, a few miles from Saratoga, and 10 miles southwest from San José. This little farm has produced an average of 15 sacks of cereals to the acre, of 100 pounds each, every year, wet or dry, for the last three years, and will yield double that amount in good seasons. Mr. S. has upon the same, five acres of fine orchard and four acres in vineyard. The most productive species of grape raised here is the "Royal Muscadine." This ranch is stocked with 15 head of fine horses. I was shown one yearling "Patchen" colt, 15½ hands high, weighing 900 pounds and already broken to harness. This baby horse trots now inside of four minutes. He has two fine horses of the "Stockbridge" breed crossed with "Messenger," either, good for three minutes. Mr. Scott's horses will average in value \$400 each. He is living here not to make money but to enjoy himself, but your correspondent's opinion is that he is doing both.

Excellent Stock.

Adjoining the above-mentioned ranch, on the northeast, is that of Thos. Blake, consisting of 360 acres, same class of land. Dairying and stock raising is the principal business; milking 160 American cows and making butter only. Mr. Blake, I believe, has the only specimen of the "Normandy" horse on this coast, one that he imported direct from England two years since. He is 17 hands high and weighs 2,220 pounds; his name is "Captain Thompson;" color, iron gray. Mr. Blake brought two of these horses, but one died on the journey here. He has refused \$2,000 for this stallion. He has also a fine Devonshire bull, three years old, weighing 1,500 lbs., which was imported at the same time. The sire of this bull was stuffed, and is now on exhibition at Liverpool; he weighed 1,715 pounds. There are on the ranch 140 head of other young cattle, all American, the finest average lot in the county. Seven men are employed here.

Agricultural Implements.

Six miles southwest of San José, on the road to Saratoga, are the works of Mr. J. T. Watkins, who carries on blacksmithing, carriage and wagon making, and is also an extensive manufacturer of all kinds of agricultural implements. He is the inventor and manufacturer of the largest specimen of a threshing machine there is in the State, if not in the world. It is a 16-horse power machine with only a 36 inch cylinder, but has a 54-inch screen containing 17 square feet. The ordinary contain from

7 to 9 only. This machine has been run for several years and has never been known to choke in threshing 4,200 bushels per day. It has a high reputation in this section for thoroughly cleaning all its threshes, in fact, no waste at all. Mr. W. employs from 4 to 8 men. A portion of the

Quito Farm

is owned by S. Graves, the improvements of which are situated four miles from Santa Clara. This farm embraces 190 acres, 150 of which were in wheat this season, yielding 500 sacks; a very light crop. Ordinarily 3,000 sacks are taken from the same number of acres; for such was the case for four successive years. The ranch is stocked with 20 head of horses and the same number of fine cattle.

Mulum in Parvo.

A small ranch of only 14 acres, situated 2½ miles southwest of San José, the property of Wm. C. Geiger, is about as productive as any spot of its size in the State, and certainly more diversified in the class of its productions. There are six acres of strawberries, and an acre or so of other berries, which yielded in the aggregate 38,000 pounds, or about 19 tons, this year. He has 700 fine cherry trees. Set out between these are 3,500 rhubarb plants from which 1½ tons of cuttings were sold this year, their first season, and from a second cutting he anticipates a yield of five tons. On the most elevated spot of this little farm, is placed a fine specimen of a steam engine, 7-horse power, made by Enright of San José, which is used for pumping water from two wells, 57 feet deep, each, for the purpose of irrigation. There are 3,200 feet of 6-inch pipelaid underground for distributing the water. The engine has a capacity of raising 14,000 gallons of water per hour. This farm is situated 35 feet higher than San José, making a flowing artesian well impossible. On this little ranch may be found the following forest trees: wild cherry (one specimen of which produced 7 gallons of cherries this year), mulberry, black walnut, persimmon, pecan, chestnut, red haw, paw-paw, and hazelnut, all of which have produced the present season. Mr. Geiger gives it as his experience that strawberries planted among fruit trees when irrigation is relied upon are injurious to the latter, for the reason that they require more water than is beneficial to the trees. He has the water under perfect control, using small stop-cocks in different parts of the ranch, so that it may be turned on whenever necessary.

L. P. MC.

The Resources of Montana.

EDITORS PRESS:—From my observations here I am satisfied that stock-raising and especially the wool business is destined to be the future great industry of Montana. The bunch-grass, which grows in such luxuriance as to lose, in some places, its characteristic distribution in bunches or clumps, and to cover the whole surface with continuous pasture, is famous as a nutritious and fattening food for stock. Cattle and horses are turned out upon it at all seasons, even in the winter, and improve in condition while grazing. This grass dies early, but retains its nutritious properties all winter. It thus constitutes a standing hay—only it is much better fodder than hay, and almost like grain in its effect. There are a good many horses in the Territory now and more attention is given to breeding; and in a few years this Territory will furnish, I am convinced, a stock of serviceable blood, worthy of the great advantages Nature has bestowed upon the stock-raiser here.

The grass to which I have alluded makes excellent beef also. The herds in some of the valleys amount to 5,000 or 6,000 head. There is a great demand still for oxen as well as cows; and Montana is importing cattle, as well as receiving into her ample grazing lands the stock of other States and Territories.

Mr. Nelson Story, of Bozeman, informs me that he has imported from California 200 head of colts and 700 horses and mares. Although he was upwards of three months on the road, and only drove about twenty miles a day, he lost over one-half of the colts and many of the horses, who could not stand the fatigue of traveling so long a distance. It is estimated, by well-informed stock-men, that 20,000 head of cattle and other stock were imported into Montana this year. They tell me that they have not had to feed their cattle during the last three or four winters. They

thrive and grow fat on bunch-grass, as do the buffalo of which it is calculated there are at least 100,000 in the Territory. Beef here at present is worth 25 cents per pound.

Sheep and Wool.

There is no better country than this for raising sheep, and this business is being engaged in quite extensively. Messrs. Poindexter & Orr, of Beaver Head Valley, recently shipped to the railroad at Corinne, 13,000 lbs. of wool. This firm are the leading stock-men of the Northwest, and their vast herds show superior classes of cattle, horses and sheep. They have just received from the East, a car load of sheep, of the best blood. Mr. Edward Larabie, a stock-grower in Deer Lodge county, has purchased 1,400 head of sheep and will engage in sheep-raising extensively. Mr. David Pattee arrived in Deer Lodge last week from Oregon, with a drove of 2,500 head of sheep which he purchased in that State. The sheep business is one of the most remunerative in the Territory, and Montana promises in a few years to be one of the first wool-producing regions on the Pacific slope.

The Climate.

The climate of Montana is delightful, and in winter as well as summer the air is pure, dry, healthy and exhilarating. There is no fever and ague or other diseases incident to damp and changeable climates. The mean annual temperature is the same as that of Pennsylvania, and the mean elevation of the valleys of the Territory is not over 2,500 feet. The fall of snow is not over half the annual fall in New England.

Altitude of the Principal Towns.

Helena is 4,300 feet above the level of the sea; Fort Benton, 3,000; Virginia City, 5,400; Deer Lodge, 4,000; and Missoula, 3,300.

Timber.

One-fourth of the area of Montana is well timbered and the supply is inexhaustible. It consists principally of white and yellow pine, hemlock, fir, cedar and cotton-wood. There is no hickory, oak, beech or maple.

Building Material.

There is an abundance of blue and white limestone, sandstone and fine marble. Good clay for bricks is abundant, and fire clay is found in many localities. Bituminous coal of good quality has been discovered all over the Territory.

Agriculture.

The agricultural lands consist of prairie, bottom and table lands. The foothills and mountain slopes are used for grazing, and are covered with nutritious grasses. All the cereals grow to perfection and the vegetables are not excelled anywhere. The climate is also well adapted to the growing of hemp. The soil is dark, vegetable mould, of great richness and fertility. The subsoil is a clay or clay mixed with sand, and is very porous without being spongy. The value of farm products of Montana for the year 1869 aggregated \$3,925,000, of which amount the wheat crop gave \$900,000, barley and oats \$500,000 and potatoes \$1,000,000. Winter wheat is worth in the Helena market \$2.40 per bushel, oats 3 cents per pound, rye 5 cents, barley 2½ cents, and potatoes 2 cents. Fruit trees have not yet been extensively introduced, but the hardier varieties promise to succeed well. Strawberries, gooseberries, raspberries and currants grow wild in the valleys and along the borders of the streams.

Irrigation.

Irrigation here is a necessity for the raising of full crops. The method adopted is to get the wheat into the ground as early as possible in the spring, and turn the water on, when the grain is about four inches high.

Mining.

Mining is the chief business of the country. There are some 40 quartz mills in the Territory, erected at a cost of over a million dollars. Placer mines, however, yield the greater proportion of the gold production, and capital to the extent of several millions has been invested in ditches, flumes and hydraulics. Copper, iron, lead and cinnabar have also been found in paying quantities.

Railroads.

The early completion of the Northern Pacific Railroad, which is now a conceded fact, will do more to open up the resources of the Territory than any other improvement. The railroad which will be constructed from Ogden on the Central Pacific north, will also develop a rich region of country and inaugurate a new era of progress in Montana. W. H. M.

The Rains in Stanislaus.

EDITORS PRESS:—Since my report to you of our first shower in October, our region has been favored twice by rains.

In the storm which has just ended and which to all appearances has extended throughout our State, we have had enough to go far towards putting to rest all doubts about a good rain-fall this winter.

So far in November we have had the following rains.

| | Inches. |
|-------------------------------------|---------|
| Nov. 14..... | 0.20 |
| Nov. 25..... | 0.42 |
| Nov. 26..... | 0.03 |
| Nov. 27..... | 0.04 |
| Nov. 28..... | 0.46 |
| Nov. 29..... | 0.14 |
| Total for November, up to date..... | 1.29 |

In the last storm, continuing five days, we have had 1.09 inches. Including the shower in October, (0.04) our entire rain-fall this season is 1.33 inches.

Now that our rains for this month are probably ended, it is a matter of some interest to compare them with the rains of Nov. for three years past.

As was shown in the RURAL PRESS of Oct. 28th, we had in this locality, Nov. '68, 0.95; Nov. '69, 0.49; Nov. '70, 0.32. We can now add for Nov. '71, 1.29. If November rains may be correctly taken as an index from which to form some idea of the amount of rain for a given season, as many think they may, all who are interested in our rains will draw fresh encouragement from the manner in which this season has opened. The value to California of this last rain can scarcely be overestimated. It confirms the hope and belief that the coming season is to be a fair one.

If, for amusement, we wish to make a rough calculation, taking November rains as a standard for the year, the result is quite curious, as confirming a lesson drawn from Dr. Logan's rain-table. It is seen that the rain for this month is 0.34 more than in Nov. '68. Now as 0.34 is but little more than one-third of 0.95, it would promise about one-third more rain for the entire season than fell in the winter of '68 and '69.

That winter we had here little more than 15 inches, one-third of which is 5 inches. Add this, and we have some 20 inches as the amount to be expected from this indication, if it is any. Of course, this is not given as a serious calculation, nor as a general means for predicting our annual rain-falls. It is merely pointed out as an odd confirmation of the inference from Dr. Logan's rain-table, that "we may confidently look for a rain-fall this winter, ranging at least from 17 to 22 inches."

The soil is already wet between 9 and 10 inches, though the moisture has not yet had time to sink as low as it will. This prepares our land better for plowing than at the opening of any season for the past three years. Our grain is already up and looking thrifty.

As we look, this morning, through the clear, pure air of our valley, towards the Sierras on the east and the coast range to the west, we are so forcibly reminded of a noted line in one of Horace's beautiful odes, that we hope you and your readers will pardon a Latin quotation, even if it is in a chat about the weather, especially when we promise to give its meaning. It may not only be a pleasant reminder for those who in their school and college days learned to appreciate the words of that noble writer, so full of truth and wisdom, but will suggest one of many points in which the varied surface and climate of our State resemble those of far-famed Italy.

The poet in summing up the proofs that an Italian winter had begun in earnest, gives as the first,

Vides, ut alta siet nive candidum Soracte;

Or, in plain English,

You see, that lofty Mt. Soracte stands glistening with snow.

So now do we see the Sierras "glistening with snow" far down into the foothills, and even Mt. Diablo, Mt. Oso, and all the higher crests of the coast range, have donned their snowy caps much earlier than usual. This sight from our valley, where we rarely, if ever, have snow, proves that our winter has begun at last. To see the Sierras so heavily covered with snow at this early date, is an earnest that they will this winter lay up an abundant supply of water in their icy store-houses, to fill our rivers, our mining ditches, and irrigating canals, when we need them.

Altogether, this good and long-wished-for rain is well calculated to put the minds of our people in a proper tone to enjoy the observance of to-morrow's thanksgiving.

J. W. A. W.

Turlock, Stanislaus Co., Nov. 28, 1871.

HORTICULTURAL.

Some Tropical Fruits now being, or likely to be, Cultivated in California.

[Written for the Press, by E. J. HOOPER.]

Colocassia Esculenta, or *Caladium Esculentum*.

The roots of this plant, an esculent vegetable, are now attracting in the Southern States some considerable attention. It is there called "tanyah." It is deemed worthy of notice as, probably, a valuable addition to our list of vegetables in B. K. Bliss & Son's Catalogue. As the root is tender, it is best suited to countries with warm climates, as the South and California.

There are several varieties of this genus of plants, and they are all more or less cultivated in all the hot countries of the globe; they have roots of a mild and agreeable flavor, which are eaten by the inhabitants of regions where they grow naturally, and are raised in their gardens and fields as edible plants, their roots being constantly used as food; as also are the leaves of some of the sorts (particularly this variety, the *Colocassia esculenta*) which are called by some of the Indians, Indian Kale; they are boiled, and often supply the want of other greens. It is esteemed a wholesome green; and especially in those countries where many of the common European vegetables are with difficulty produced, this proves a good substitute.

In the cold States of the Union it is grown on account of its immense and ornamental foliage; but the tubers will not endure their winter frosts, and therefore must be dug up in the fall and put in frost-proof cellars, or buried in heaps, like Irish potatoes, or turnips, etc. I have never tasted them; but a friend, Mr. B. F. Hills, of Arcola, La., 70 miles above New Orleans, writes me that they are now beginning to use them much there, and he informs me that they are very nice in flavor, and full of nutriment—probably as much so as the common potato. Mr. Hills sent me two plants. The root is said to be about the size and shape of a French turnip.

We all know that the different species of this family are preserved in the gardens of those persons who are fond of collecting exotic plants, for the variety of their leaves, for their flowers have very little beauty. The plants are propagated easily by offshoots from their roots, which they put out plentifully. These, in cold climates, must be planted in pots filled with rich earth, and plunged into a hot bed; and if they are afterward continued in a bark-stove, they will make great progress, and their leaves will be very large. The leaves are a good deal of the shape of those of water lilies. Rhind, in his "Vegetable Kingdom," states that the Egyptian *arum* (*Arum colocasia*) abounds in Egypt, Syria and the adjacent countries, and is extensively cultivated for the sake of its large esculent roots, which are no less esteemed than those of some of the other species of the same plant.

Taro (*Arum esculentum*) is another species cultivated in the Polynesian Islands. The root requires to be planted in a hard soil, and kept covered with water from 9 to 15 months, when it is fit to eat, though it increases in size and excellence for two years more. In the natural state, both the foliage and roots of taro have all the pungent, acrid qualities that mark the genus to which the plant belongs; but these are so dissipated by cooking, whether baking or boiling, that they become mild and palatable, with no peculiar flavor more than belongs to good bread. The islanders bake the root in the native ovens, in the same way as the Bread Fruit, and then beat the paste into a mass like dough, called *poe*. It is eaten by thrusting the forefinger of the right hand into the mass, and securing as much as will adhere to it, passing it into the mouth with a hasty revolving motion of the hand and finger.

These plants would be sure to prosper in California, provided they were well irrigated; and although we have an abundance of other fine vegetables, yet, I think it is worth a trial, as an addition likely to do well in so favorable a climate for almost every variety of plants.

San Francisco, Nov. 20, 1871.

An apple tree in Niagara County, N. Y., near Lockport, yielded 25 barrels of fruit this year. It is 50 years old, and has yielded as many as 20 barrels in previous years.

FARM HINTS.

Sowing the Vine on the Vine.

Father Accolti of the Santa Clara College has transplanted from the *Unita Catholica* the following article: Mr. Dominic Perone was very anxious to reduce his own extensive vineyard to one single and particular kind of grape. To destroy all the old vines and plant them with new ones, he thought was a plan which, besides requiring an extraordinary outlay, would be against the tender feelings of an agriculturist, who naturally cannot but with great repugnance bear the idea of destroying those plants which for many years have proved beneficial. To engraft all these vines anew would be a matter of doubtful success, and besides would deprive the proprietor of an almost certain income for many years to come. In the midst of such perplexities an idea occurred to Mr. Perone, and this was sowing the vine on the vine. Such an expression on account of novelty, is at first sight almost incomprehensible, but it becomes intelligible as soon as the reader gets acquainted with the method adopted by Mr. Perone which is as follows: He at first picks up with great care and discrimination some grapes perfectly ripe, of that very kind which he wishes to introduce into his vineyard, and keeps them in a dry place. When in spring, by making a small cut in the vine, it bleeds and the sap oozes out, he makes a small hole in the lower part of the main stock with a gimlet, and introduces into it a seed of the grapes preserved. This is what he calls "sowing." This seed—which has been kept alive for months by the moisture contained in the berry—being immersed in a liquid homogeneous and connatural, now germinates, and the sap, hardened by the contact of the air, envelops the small root of the new little plant, which identifies itself with the main stock and grows up with the other branches. Meanwhile the mother vine continues to bear fruit. After two years the new offshoot is pruned. The third year it bears grape. Then the old vine is cut above the newly-sown plant, and thus the change or renovation is perfectly operated.

Report of the Commissioner of Agriculture.

It is interesting to observe that the Agricultural Bureau, at Washington, is beginning to be properly appreciated by the "powers that be." President Grant makes the following reference to this Department in his annual message, which has been telegraphed across the continent the past week:

The Report of the Commissioner of Agriculture gives the operations of his department for the year. As agriculture is the groundwork of our prosperity, too much importance cannot be attached to the labors of this department as they are in the hands of an able head, with able assistants all zealously devoted to introducing into the agriculture productions of the nation all useful products adapted to any of the various climates and soils of our vast territory, and to giving all useful information as to the method of cultivation of the plants, cereals and other products adapted to it particularly, quietly but surely.

The Agricultural Bureau is Working a Great National Good,

and if liberally supported, the more widely its influence will be extended and the less dependent we shall be upon the products of foreign countries. The subject of compensation to the heads of bureaus and officials holding positions of responsibility and requiring ability and character to fill properly, is one to which your attention is invited. But few of the officials receive a compensation equal to the respectable support of a family, while their duties are such as to involve millions of interest. In private life services demand compensation equal to the services rendered; a wise economy would dictate the same rule in the Government service.

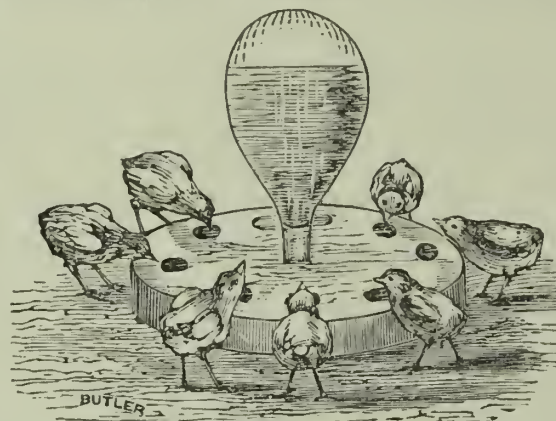
NEGLECTING THE STRAWBERRIES. — The strawberry fields about San José were so unprofitable last season that one-third and perhaps one-half the plants have been neglected so that they died.

Scientific Chicken Fountain.

The accompanying cut represents Orndoff's drinking fountain for fowls, which is intended principally for young chicks. With troughs as usually constructed, they get wet, which has the effect of injuring them more or less, retarding their growth, cramping their legs in cold weather and in some cases actually killing them. For young turkeys in particular this is a great convenience, since a bad wetting is almost certain death to them. In drinking from a trough the little things are frequently crowded into the water, but by the use of this contrivance the danger would seem to be obviated, for the holes are only large enough for one or two to drink at a time, and too small for them to tumble into. Two sizes are made, in case they should be required for large fowls, to keep them from fouling the water which is constantly at the top of the drinking holes without running over.

The San Francisco Silk Manufacturing Company.

EDS. RURAL PRESS:—I notice in your last issue your correspondent writing from Santa Clara, makes mention of Mr. Neuman as being connected with the California Silk Manufacturing Co. While Mr.



SCIENTIFIC CHICKEN FOUNTAIN.

Neuman is entitled to great credit for his enterprise in advocating the culture and manufacture of silk, allow me to say he is not, and he has never been identified with the factory now in operation at South San Francisco. The managers of this factory have had many difficulties to encounter in bringing it into successful operation, and whatever credit attaches to the enterprise they do not feel willing to divide with any one who has had no hand in the matter of promoting it.

Now, as we have our factory in full operation, our anticipations are more than realized. The class of goods we are now making meet with general favor, and the constant orders coming in for various styles of goods, convince us, this business, now in its infancy, will soon grow to such magnitude as to astonish its most sanguine advocates.

It gives us pleasure to feel we have in our midst a paper like the RURAL, which ever advocates home industry, without which, however rich in mineral wealth it may be, no country can prosper. In California, we have a rare combination of the elements of prosperity and greatness—a soil, for fertility surpassed by no other; a climate of unequalled mildness, adapted not only to the cereals and fruit of a northern clime, but also the many varieties of fruits of the Tropics, and, if I may use the expression, a country abounding in milk and honey. With all these great and bountiful gifts of an All-wise Providence, how few we have in our midst who are ready to assist in the establishment of enterprises to utilize the great abundance of labor constantly offering; but, on the contrary, how many who are over ready to predict disaster whenever any new business is started, outside of mining or money-lending.

Until Californians can realize that there are many branches of manufacture, which, when properly managed, will pay handsome profits, we can never become a prosperous people. No country can become great, while the great mass of its people have not remunerative employment. Forty years since, the New England States had few manufactures; to-day, almost every town and village has the representative of one or more; and so lucrative and uni-

versal has the business become, that all of these States have prospered almost beyond computation, and that, too, in a country where, for six months of the year, its rivers are ice-bound, and its roads blockaded with drifting snows.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING NOVEMBER 21.

EARTH-CLOSET.—Robert R. Strain, San Francisco, Cal.

SCHOOL DESK AND SEAT.—Wiley Watson, Visalia, Cal.

TUWEER.—Alfred M. Worthing, Reno, Nev.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible, by telegraph or otherwise, at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Santa Cruz Farmers' Club.

The Club met at Santa Cruz, on Saturday, Nov. 18th. President Mattison in the chair. The minutes of the last meeting were read and approved.

Mr. Conant, the chairman of the library Committee reported a number of books for the library, which were ordered.

Election of Officers.

President, J. S. Mattison—re-elected; Vice President, R. H. Sawin; Treasurer, Martin Kingsley—re-elected; Secretary, Rodger Conant; Librarian, Roger Conant—re-elected.

Mr. Locke called the attention of the Club to the effect of the food of cows on the composition of milk. Careful investigation seems to prove that very little change is effected in the constituent of milk by changes in either the quantity or quality of the food. If you want richer milk than you now have, you cannot get it by giving rich food, but must change your cow. The former must not hope for variations in the food to produce a "butter cow" or "cheese cow." The differences in this respect are differences of stock and individuals.

The quantity of milk, and consequently that of butter and cheese, is readily affected by the food; but not its quality.

Mr. Humphrey—This is the most absurd idea that I ever heard of. How is it when you give a cow turnips? Does not her milk taste of them? And how about the best season on grass? Is not the butter yellower and sweeter, thus showing the influence of food?

Mr. Locke—No doubt the milk can be both flavored and colored by the food, as the flesh of the animal often is; and no doubt improper and unwholesome food will affect the milk, by impairing the general condition of the cow.

Mr. Mattison—I used to be of the opinion that the quality of milk was easily affected by the food, but closer observation has not confirmed the idea. The point is this, that whatever food is given, the relative proportion of the elements in milk remain nearly the same. If a cow naturally gives poor milk, you will find it extremely difficult to make her give rich milk.

Mr. Cahoon—I once fed cows on "still slops," and never had them do better. They would make 14 pounds per week of good butter—not on "slops," alone, however, for they had also a supply of good hay.

Mr. Sharber—I would like to ask if potatoes do not increase the quantity of milk?

Mr. Mattison—Potatoes are rich in starch, and sugar can be made out of starch. There is no way to determine the question except by analysis.

Mr. Francis—Timothy hay with pumpkins increase the quantity and quality of milk.

Mr. Sawin—Corn meal, fed with hay, is better than bran fed alone.

Mr. Humphrey—There is a difference in the quality of milk at different seasons. When green grass is gone, we cannot make yellow butter.

The discussion closed at this point, and the Club adjourned to the first Saturday in December.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA COUNTY.

THE San Rafael *Argus* says that a gentleman in Alameda county has received from Oregon, a number of slips of Maple which he is about to plant, and try the experiment of raising in this State.

BUTTE COUNTY.

GENERAL BIDWELL was in the southern portion of Alameda county last week, looking for almond trees to plant on his Chico ranch.

COLUSA COUNTY.

THE Colusa *Sun* advises the farmers in that county to cultivate alfalfa. It says on moist land, or where it can be watered, it is more profitable than grain.

CONTRA COSTA COUNTY.

THE farmers of Contra Costa will hold a public meeting at Pacheco, Dec. 6th, to consider how to rid themselves of gophers and squirrels. The *Gazette* says:—The aggregate annual cost of supporting our squirrels far exceeds the amount of our State, county, school and Federal taxes, and the bounty tax has so far proved inadequate.

FRESNO COUNTY.

FROM the *Expositor* of Nov. 23d: Heavy frosts are reported in the mountains since the late rains, and game of all kinds is making its appearance in the foothills.

KERN COUNTY.

THE Kern *Courier* of the 18th inst. says: A party of engineers arrived here a few days since and are engaged in surveys which have for their object the development of some plan by which the waters of Kern river may be most thoroughly utilized for the purposes of irrigation. They are at present employed in the survey of a canal, to be taken out near the Rio Bravo ranch, twelve miles from Bakersfield, to be conducted in such a manner as to water all that portion of the plain lying east of this point, and too high to be benefited by our present irrigating system, but which, if supplied with water, would comprise the most desirable lands in the valley.

LOS ANGELES COUNTY.

COL. HOLLISTER has recently purchased in Japan 26 bushels of Japan tea seed, and sent over for and obtained two or three Japanese to cultivate it, and expects to meet with great success in his new experiment.

THE new grass is springing up, and the hills are turning green.

THE viniculturists are actively engaged in trimming the high willow fences surrounding their vineyards.

MERCED COUNTY.

THE Snelling *Argus* says Col. Strong has finished picking his crop of cotton. The field of cotton consists of 51 acres from which he gathered 74,450 pounds of seed cotton. The cotton is of excellent quality, being remarkably white and clean, and totally free from stains of any kind. The lint is fine, silky, and is sufficiently lengthy to bring it up to a high grade, ranking, perhaps, as "good middling."

NAPA COUNTY.

A disease has broken out among the cattle and hogs, in Berryessa valley, from which a number have died.

THE Healdsburg *Flag* says John Higgins, last spring, planted two and a half acres on his farm on Dry creek, in corn and pumpkins. This fall he gathered 125 bushels of corn worth \$1.60 per bushel, and 24 tons of pumpkins worth \$5 per ton.

NEVADA COUNTY.

THE National *Gazette* is informed that the wild geese are doing a great deal of damage to the farmers near the 26-Mile House. As fast as the farmers plant their grain the geese alight in the fields and dig it up and eat it. One farmer had procured two pieces of cannon and loaded them with buckshot, and at one discharge killed about 500 geese.

SANTA BARBARA COUNTY.

It is asserted by the Santa Barbara *Press* that at least 100 farm hands can find occupation in that county for a year, at \$25 and \$30 per month.

FINE squashes have been selling for \$3 to \$4 per ton.

SAN BERNARDINO COUNTY.

IN San Bernardino valley the cultivation of alfalfa is extensively carried on. The grass is cut eight times per year, or on an average of once every six weeks.

RIVERSIDE is one of the most promising and inviting new colonies of Southern California. A large ditch supplies the farmers with an abundance of water from

the Santa Anna river, and the soil is particularly adapted to the culture of semi-tropical fruit and vines. Riverside is about 35 miles east of Anaheim.

GAME of all kinds is abundant just now. Wild geese and ducks cover the river bottoms, and quail are counted by the million.

SANTA CLARA COUNTY.

THE San Jose *Mercury* says: For the first time in the history of this valley the strawberry business has been overdone. Last season prices touched bottom at three cents a pound—a figure that barely covered the cost of picking and shipping the berries, leaving no margin of profit or of interest upon the investment. The result is that many fields have been neglected and the vines suffered to die out for want of proper irrigation. We should judge that not less than one-third, perhaps as many as one-half, of the vines in this section are thus past recovery.

SAN DIEGO COUNTY.

WE clip the following from the San Diego *Union*:—Mr. Perrin brought us yesterday a fine specimen of peanuts raised by him this season. The bunch is of unusual size and full of nuts; it was grown from a single nut. Mr. Perrin has confidence that good crops of peanuts can be raised here with but little trouble. He will plant on a much larger scale next season.

DRIED FRUIT.—The climate of this county cannot be excelled for fruit drying purposes by that of any place in California. The grapes are as nice as layer raisins, and cost about half as much as the foreign dried.

OUR deputy surveyor was busy last week surveying Government land for parties who have taken up several quarter sections for future homes. He is surprised to find such an extensive area of fine, arable land uncultivated, which is capable of producing almost any crop.

TEHAMA COUNTY.

THE Red Bluff *Sentinel* mentions a new variety of potato, raised by Mr. R. Klotz, of Klotz's Mills, as follows: This new article of potato is a native of South America—was brought to this State by Mr. Kimble, of Shasta county. Mr. Klotz procured some, two years ago, at \$5 per pound, from which he now has over 15,000 pounds, which he is selling for seed at 10 cents per pound. The average yield of this new article is from 40 to 60 large potatoes to a single stalk, being double that of any other kind. They are fully as early a potato as the Pink-eye, and when grown on the same soil, receiving the same care, cultivation, etc., their yield is double that of any other.

TULARE COUNTY.

AN irrigating ditch is to be constructed at once from the Kaweah to the ranches of Bacon and others. Its whole length will be about nine miles, and it is intended to irrigate about 8,000 acres.

TUOLUMNE COUNTY.

A FINE sample of English chestnuts, produced in the garden of John Pereira, at Samestown, Tuolumne county, have been exhibited at Stockton.

TRINITY COUNTY.

THE Trinity *Journal* is informed that John Coombs arrived at Indian creek, last week with 300 head of half-breed Angora goats and a number of pure-bred bucks.

SAN JOAQUIN COUNTY.

THE Stockton *Republican* makes the following statement in regard to the large land holders in San Joaquin Valley:—One private individual owns 350,000 acres and twelve men own 2,785,000 acres—an average of 174,000 acres each. In one part of this valley the traveler may ride forty-five miles over the land owned by two men, and he may follow their fence sixty five miles around a single pasture. These are facts, and yet it is wondered why people do not come here and settle.

SISKIYOU COUNTY.

THE agricultural interests of Paradise Valley are represented as being in a prosperous condition. The grain crop of the past season yields considerably more than was generally expected. The farmers are now busy plowing and preparing for another crop. Lands are being entered by those who expect to settle on them, and in the course of two or three years more we may reasonably predict a hundred per cent. increase over the present population.

THE Yreka *Union* is responsible for a story that the railroad surveying party found in the mountains, north of the town, a young forest of wild plum trees, on which there were estimated to be five thousand bushels of plums.

YOLO COUNTY.

WE learn from a gentleman from Yolo

county that a large area of grain has already been planted and that much more will be sown should rain fall soon in quantities sufficient to justify a reasonable supposition of a wet season.

YUBA COUNTY.

DURING the month of October last, the Eastern shipments by railroad from Marysville embraced 3,460 pounds of wine, 60,284 pounds of fruit, and 2,443 pounds of unspecified freight.

OREGON.

SCHOOL LANDS.—The clerk of the State School Land Commission has gone to Eastern Oregon to locate the indemnity school lands for the La Grand District.

SHIPMENTS of fruit from Walla Walla to the upper country are very large, much exceeding that of any former season.

CAPTAIN WHITE has sown 100 acres of clover at Upper Soda, Oregon, to be used for pasturage during the coming Spring and Summer.

THE editor of the Jacksonville *Times* has been presented with a turnip weighing 10 pounds, and measuring 31 inches around its larger circumference, and 25 inches around the smaller. It was raised on Link river.

J. B. HARKER has started up his large flouring mill at Dayton.

THIRTEEN hundred tons of wheat are in store at Wallula.

THE Baker county *Democrat* says: Mr. Baldock, living about two miles northeast of this place, informs us that he raised on his place the last summer 415 bushels of barley on 12 acres of ground. This is at the rate of about 35 bushels to the acre, and when it is considered that the land is the ordinary sage brush land, we consider it worthy of record.

WITHIN the last six months Umatilla valley has received large accessions to her population. Quite a large new settlement has been made in the prairies along the north side of Wild Horse creek.

NEVADA.

THE Eureka *Sentinel* says: Farmer Kennedy of Robert's creek, 26 miles north of Eureka, informs us that he has raised a large quantity of potatoes that weigh two pounds each, turnips that go 10 pounds, and cabbage-heads averaging 12 pounds each.

COMING CROPS.—Wm. Wear, living near Golconda station, having visited many ranches east of that place, learns that a largely increased acreage will be brought into use the coming season, for the raising of wheat, oats and barley.

THE Reno *Journal* says: Alfalfa is steadily growing in favor with the teamsters and dairymen, and the fact that our poorest sagebrush land produces abundantly having been experimentally established, the reasonable probability is that a large area will be seeded this coming season.

THREE hundred tons of barley are in store in White River valley.

ARIZONA.

MARICOPA, the youngest county, is the garden of Arizona; the home of the farmer; the granary which, to-day, supplies the army, and will, in time to come, be the granary which will supply the mining districts.

SWEET POTATOES.—A thousand pounds of sweet potatoes, says the Prescott *Miner*, were brought to town, and sold readily at 20 cents per pound.

COLORADO.

MR. MORRIS, a resident of Greeley, has obtained nearly 3,000 cotton-wood trees, ready for planting next spring, when trees of all kinds will be set in immense numbers.

A CORRESPONDENT of the Denver *Tribune* says: In the vicinity of Littleton are some of the finest farms in Colorado. Ten of these comprise 3,150 acres, and are irrigated by the Upper Platte and Bear Creek ditch, which is over six miles in length, and planted throughout nearly its entire length with cottonwoods.

THE progress made in sheep husbandry in Colorado has been comparatively greater than in cattle raising. Prices of sheep have nearly doubled within a twelvemonth. Those sheep that have been thoroughly acclimated have given fine returns of wool.

THE dairyman receives for his butter in Colorado not less than 25 cents, and often 50 cents per pound, while the average is from 30 to 35 cents.

IDAHO.

THE Idaho *Herald* is informed by Mr. A. Wyatt of Dry Creek that he sowed 16 bushels of oats last Spring, from which he received in return 405 bushels. He also cut and baled 91 tons of hay off of 50

acres of ground, which he sold at \$11 and \$12 per ton on the ground.

THE Owyhee *Avalanche* publishes an account of a pumpkin raised in that county 5 ft. 8 inches in circumference, and challenges creation to size up to that.

THE Indians at Fort Hall Reservation raised this year 7,000 bushels of potatoes and other vegetables in proportion, besides a large quantity of wheat.

THE following described blooded stock has been imported into Idaho by W. C. Hull: Two bulls, two yearlings and three calves, all of which are Durhams. One stallion, Blackhawk and Printer stock. Three Leicester rams, a lot of blooded hogs, and some fine Spanish and Burmah chickens.

MONTANA.

THE Helena *Herald* says stock-growing is becoming both a leading feature and a paying business in Montana. Vast herds of cattle and extensive flocks of sheep are feeding from the abundant pasturage of our extensive, nutritious bunch-grass ranges, gaining flesh and fat such as no other herds and flocks, in all the whole continent, ever gained before.

MR. J. G. SARTER, of Deep Creek, near Camp Baker, from his fine sleek herd, selected a two-year old steer, and the carcass, net, weighed 820 lbs. and the tallow 40 lbs.

UTAH.

THE Salt Lake *Tribune* states that Dr. Graff succeeded in reaching this city on last Saturday with 120 Cashmere goats. The country is peculiarly adapted to this kind of animals, the mountains being so rocky and broken that nothing but a goat or a chamois can climb them, and yet affording good feed. On the upper Virgin or Canab country, where the snow never falls, Dr. Graff may increase his Cashmères to any desirable number. Goats and sheep are better adapted to Utah than any other kind of animals, and we are induced to believe that in a few years they will be more numerous than all others. These goats are imported at a cost of \$125 per head.

WASHINGTON.

THE New York *Tribune* has the following: Washington Territory has caused herself to be represented at a well-known banking house, by one of the finest collections of products of the soil we ever set eyes on. It includes apples of two pounds weight, with enlarged specimens of some of our best-known varieties; pears nearly as large and very good; turnips weighing 34 pounds each, with beets, parsnips, etc., to match, and a wondrous show of wheat, barley, oats, etc., etc. Blackberry canes of this year's growth, amply stout enough for walking canes, give variety to the exhibition.

THE Puget Mill Company have located at Puget Sound nearly 3,000 acres of land under Tennessee Agricultural College scrip, which has proved to be counterfeit.

THE cattle of Eastern Washington are represented as being in splendid condition.

DURING the past year the population of Whatcom county has been doubled by actual settlements, and Snohomish county has had a large increase of population; and the whole east side of the Sound is being settled rapidly.

It is said that the plain between the mouth of the Nesqually river and Steilacoom bristles with the smoke-stacks of squatters.

THE Legislature of Washington Territory has before it a bill to authorize a huge land lottery to pay off the Territorial debt.

ATLANTIC.

THIS year's sugar crop of Louisiana is said to be lamentably below the average both in quality and quantity.

IN some parts of Iowa people are buying corn at 15 cents a bushel to use as fuel, it being cheaper than coal.

LANDS IN VIRGINIA.—At a recent sale of real estate at Richmond, Va., under order of the Court of Bankruptcy, six parcels of improved land in Essex County, amounting to 1,383 acres were sold at prices varying from \$1.75 to \$6.87 per acre. In Carolina County 760 acres were sold at \$7.75 an acre, and in King and Queen County, 403 acres were sold at \$3.50 per acre.

CATTLE IN TEXAS.—There are about 3,800,000 head of cattle in Texas, one-fourth being beeves, one-fourth cows, and the other half yearlings and two-year-olds. Seven hundred and fifty thousand calves are raised and branded every year. All are raised on the great Texas plains, which cover an area of 152,000,000 acres.

IN 1870, 104,000,000 pounds of butter were made in the State of New York, and 65,000,000 pounds of cheese, the total value of these products being \$40,000,000.

HOME INDUSTRIES.

OUR MANUFACTURES.

The various branches of industry and home manufactures, merit the attention of the people and the press, to a greater extent than is usually conceded; while every one is proud of the enterprises daily increasing and spreading all over our thriving State, we do not pause to encourage and credit the originator and leader of these several enterprises, half as often as they deserve. We shall look among the various branches of our home manufactures, and report from time to time, whatever seems to be of interest.

The Standard Soap Company, whose establishment is at Nos. 204 and 206 Sacramento street, extending through to Nos. 207 and 209 Commercial street, have the most complete soap manufactory in the State. They make from 40 to 50 varieties of fancy and toilet soaps, and about 20 kinds of family and laundry soaps. They use California tallow almost entirely, and consume large quantities of native soda from Nevada. They also make large quantities of Madame Balcear's vegetable washing fluid from California soap-root. This fluid, which is manufactured by a patent process, is used for all the purposes for which ordinary soap is employed, and is especially valuable in cleansing crockery, glass, silver and paint. It is also used extensively on steamers, for cleaning the machinery, scrubbing the decks, etc. The soaps made by this company are of the better qualities, finely scented, and are guaranteed equal to the best Eastern brands. Their machinery for making toilet soaps comprises the most recent improvements, and their perfumes and essential oils are imported direct from France. Their cocoa nut oil soap is made of pure cocoa nut oil, brought from islands in the Central Pacific. They also manufacture a novel kind of harness soap, which at once oils, blackens, and polishes the harness. The soap of all kinds is cut upon wire frames and the cakes of the finer qualities are then stamped and polished by the most improved presses. The candle factory, belonging to this company, was destroyed by fire some time since; but will probably be re-built. The demands upon this company for soap supplies are not confined to local trade; they ship large quantities to China, Japan, Mexico, Tahiti, Honolulu, and the entire Pacific slope, and as far east as Utah. The greatest demand is for their best grades of soap and washing powders.

They have readily taken the first premium at several of the Mechanics' Fairs, State Fair, and at the Santa Clara Valley Fair.

The castile soaps manufactured by the Standard Company are worthy of special notice.

The amount of washing powder made and sold in San Francisco, by rude estimate, must be in the neighborhood of six or seven hundred thousand pounds. In 1867, the amount manufactured was over three hundred thousand pounds; and the various establishments manufactured the same year over three and a half million pounds of soap.

The soap plant, native of California, called Amole, was considerably used by the Indians and Spanish Californians, before the country was known to Americans. It has a stalk five or six feet high, with branches about 17 inches long, which are covered with buds that open in the night, commencing at the root of the boughs, about five inches at a time. The next night, another set of buds open, and so continue night after night. It is found in the valleys in increasing quantities southward. A variety of the same plant is found in some of the basins of Idaho. The bulbous root of this plant, when rubbed in water, makes a lather like soap—it is also considered a fine wash for sheep, by the Mexicans, who used to gather it and use it for that purpose.

Mission Candle Works.

Messrs. Winter, Maurer & Co., have recently established on Sixteenth street, opposite the Mission Woolen Mills, a large

and extensive candle and soap manufactory. The candles made by them are the chemical wax and solar sperm, and are a very superior article. They were awarded a gold medal for their exhibition of candles at the late State Fair, by the committee appointed for that purpose. The most of the tallow consumed is obtained from Australia and Chicago; and from fifteen to twenty tons is used weekly in the manufacture of, from one thousand to twelve hundred boxes of candles. Two of the largest hydraulic presses in use in any factory of the kind in the United States, are employed to press the oil out of the tallow, one being of a pressure of five thousand, and the other of ten thousand pounds to the square inch. Over 400,000 boxes of candles are imported into California from the East annually; but eastern manufacturers usually send their surplus to this State, which is often an inferior article. The candles made at this establishment are chiefly intended for use in mines, as they are hard-pressed, and do not run. The oil pressed from the tallow, in eastern candle factories, is used in other industries, which do not exist in California; but, at these works, the oil is made into an extra article of soap. From forty-five to fifty thousand pounds of soap are made per week, which finds a ready sale, as well as all the candles manufactured.

BEET SUGAR MAKING.

The undoubted success of the two companies that have ventured upon the experiment of beet sugar making, upon a reasonably extended scale, is quite apparent in the effort of the Alvarado company in securing an additional large tract of land after their first season's run, at \$200 per acre; and the recent lease by the Sacramento company of 600 acres of land in the immediate vicinity of their own 360 acres, making in all about a thousand acres, which they intend to plant to beets the coming spring, carries with it the evidence of success to that degree, that we need no longer doubt, notwithstanding the reticence of the parties in interest, in giving the exact figures of profit.

The question is not whether beet sugar can be produced in California as cheaply as cane sugar can in the Sandwich Islands or elsewhere; but it is as to whether it can be produced here at a profit to the company or community of farmers who grow the beets, and to the manufacturer who converts them into sugar.

We cannot all be growers of cane sugar if we would, we are not in the country best adapted to its growth; but a great many of the people of California can be growers of beets and producers of sugar at a profit upon land and capital employed, altogether exceeding that from any other agricultural and manufacturing pursuit in the State.

The cultivation of the beet is at a season of the year when the wheat crop commands the least attention, and the gathering of the same for the factory all come at a time that in no way interferes with the culture or management of other farm crops, and the profit derived therefrom is just so much added to the farmer's annual gains.

The manufacturing part will take care of itself, at a profit of from 30 to 45 per cent. per annum upon total cost of buildings, machinery and labor required for its production.

The fact already demonstrated that a beet sugar factory is also a refinery for the raw sugars of commerce at seasons of the year when there are no beets to work, gives to the beet sugarie a significance that was not dreamed of by the old refiners of sugars in San Francisco. But this fact, important as it is, need not give them the least uneasiness, because there probably will not be beet sugaries enough in California in ten years, to supply even the home and interior demand, as the population is increasing far in advance of the supply of sugar. As a consequence, it cannot be lowered in price, and the last 20 years have demonstrated that the zone belt for the production of cane sugar, is not sufficient to supply the world outside the tropics with its required amount of sugar.

FLEECE AND LOOM.

The Cashmere or Angora Goat.

We give below an article from the pen of the venerable and reliable stock-raiser, Col. Robert W. Scott, of Frankfort, Ky., which will no doubt prove interesting and instructive to many of our readers. There are now a large number of angora goats distributed throughout the State, and it is held by many that they are more profitable for wool-growing than sheep. The pure bloods are crossed with the common goat, until the blood is brought up so as to produce wool long and fine enough to be shorn and manufactured. It is well known that goats are much easier raised than sheep, and when properly bred their wool is worth more than twice that of sheep's wool, while it costs no more to produce it.

We do not know where Col. Scott's article originally appeared, or the date at which it was written; but presume it must have been published at least three or four years ago, since which time there has been some depreciation in the price of goats' wool, from the figures which he here gives. We have seen it stated, the past summer, that the Colonel sold his last year's clip of goats' wool at an average of 85 cents per pound, and that of his sheep for 35 cents, — currency. We copy as follows:

Though the goat has not long been practically known in the United States as a wool-bearing animal, yet it is inferable from its hardier nature and adaptation to pioneer life, that it supplied our progenitors with clothing and food long before the sheep was used for these purposes. Certainly from the earliest history of our race it has been intimately and practically associated with man, and in Asiatic countries still contributes to his requirements more than sheep. The race abounds in almost infinite varieties, which have readily adapted themselves to the climates, subsistence, and uses which surround them in almost every inhabitable portion of the world. It is rather strange, therefore, that American enterprise did not sooner avail itself of the practical value of the wool-bearing variety, and long since introduce them as one of the common stocks of our farms. This, however, was left to Mr. Jas. B. Davis, of South Carolina, in the year 1849, since which they have gradually been diffused all over the country, in all of its extremes, and have proven themselves to be hardy, thrifty, and prolific in all situations, and of great practical value for their wool, and are now generally known as Cashmere Goats, a name which has been accorded to them, and whether technically correct or not, is of no practical importance.

As in mechanics, there is a *dead point*, which it is difficult to pass, and at which motion may be suspended, but beyond which progress is easy; so also the practical value of these goats for wool-bearing purposes seemed for a while problematical, mainly on account of the want of manufacturing establishments at home, to create a market for the wool. But the *dead point* has been safely and successfully passed; manufactories of this most beautiful, durable, and valuable product have been established in this country, and henceforward there will be a steady demand, at remunerating prices, for all that can be produced. My last clip, consisting of all grades, from three-quarter to pure breed, was sold in New York for \$1.25 per pound, (just as shorn from the animals) to Messrs. Bauendahl & Co., No. 45 and 47 Park Place. This is one of the most extensive reliable, and gentlemanly wool houses in New York, and in their Price Current and Wool Circular, for June, they say:

"Mohair has attracted more attention, and some recent sales of domestic grown parcels were effected at prices varying from seventy-five cents to \$1.25. Part of the consignments were good, and the question of the capability to grow goat's hair here, and to manufacture therefrom superior articles, seems to be practically settled." "Mohair" is the commercial term by which goats' wool is known. I have before me a sample of some imported by Messrs. Bauendahl & Co., (for there is not only a demand for all domestic grown, but it is also imported to some extent). The sample shows it to be identically of the same description and variety, produced by the same species of goat, and adapted to the same uses, as the wool of our Cashmere

Goats. Messrs. Bauendahl & Co., inform me that it costs one dollar in gold to import it.

By drawing a comparison between sheep and goats as practical wool-bearing animals, I would not, if I could, have one sheep less, or one pound less of their wool raised; for we now import nine and a half million pounds of wool, and over seventeen million dollars worth of woolen goods, all of which and more, we could and ought to produce at home, and would do so if there were no villainous dogs in the land. But rather let us have more goats and more of their wool commensurate with its superior quality and value.

Let the "improved Kentucky" breed of sheep, be taken as the object of comparison, and at the usual estimate of 5 sheep per acre of good grass land. One hundred breeding ewes of this breed have produced eight pounds each of clean, unwashed wool, and this wool was sold this year at 38 cents per pound. These are liberal estimates, and certainly more than the sheep of this country generally produce. Thus we have 40 lbs. of wool per acre, worth 38c per lb., making \$15.20 per acre for the wool alone. Let the value of the animals increase, and the greater value of the mutton of sheep be born in mind in making this comparison.

As goats consume less, and live on a greater variety, and on meaner food than sheep, at least eight of them can be kept where five sheep can be. Five pounds of clean wool, as shorn, will be a fair average for grown, full-blood animals, (my flock yielding from two to eight pounds, of all ages, and from three-quarter to pure bred). This makes 40 pounds of wool per acre from goats also, at \$1.25 per pound (the price at which I have this year sold my lot of mixed breed wool), will make just fifty dollars per acre, more than three times the value of the sheep's wool, and \$34.80 more per acre than sheep will make. The same number of female goats will produce one-third more lambs than the same number of sheep, and the eight goats per acre will thereby produce almost as much meat per acre as the five sheep will, and the goats meat is essentially as acceptable and nutritious, and will be as saleable as the mutton of sheep.

If these estimates even approach correctness, the goat will, as a wool-bearing animal, be of far greater practical value than sheep of any breed. May it not be said, also, and correctly that they are of greater productive value than any other farm stock, especially when we consider their healthy and hardy constitutions, their prolific character, their cheap and varied subsistence, and above all, their immunity from the depredations of dogs.

Since the raising of goats will be so remunerative as shown, there ought to be and there may be, thousands of them produced where nothing of value is now to be found. The destruction of sheep by dogs, prevents the raising of them in many localities, but that difficulty does not exist with goats, as dogs rarely molest them.

Thousands of them may, therefore, be raised at small expense, and with but little care, in the pastures, woodlands, hillsides, and mountains of the country, and about the commons of towns and cities, all of which will be almost clear gain. Considering their varied and valuable productions in milk, cheese, tallow, meat, leather, pelts and wool, and the cheapness of their subsistence, it appears that no class of animals gives promise of such liberal remuneration.

Let no man, and especially no farmer, be discouraged from raising them by their roaming dispositions and breachy character. They do not break fences of any kind, as other stock do, and cannot clear five feet high at a bound. An ordinary stake-and-ridered, or a plank fence, will keep them securely; and a row of cedars, or of osage orange beside a stone fence will make it also goat-proof. They also endure better than any other stock, restraint by coupling, hobbling, hurdling, and picketing, all of which are practical and effective with them, in open fields and pastures.

Considering their omnivorous tastes and habits, they must be very valuable as scavengers on old farms, and as pioneers on new lands, in clearing them of noxious weeds, bushes, briars and burrs, almost all of which they will eat at some season of the year, or in some stage of their existence.

Then let us have more, and still more and more of the wool-bearing goat, until the new manufactories shall be supplied, and still many others shall be erected, and in our midst; and until the ladies can wear cashmere shawls, and the gentlemen wear drap etc coats at less than half the present price.

ROBERT W. SCOTT.

USEFUL INFORMATION.

Artificial Leather.

Much has been said of late with regard to the production of a new article of commerce, known as "artificial leather," manufactured chiefly from leather scraps. So much interest seems to be manifested in this new article of commerce, that we here reproduce some remarks of a scientific contemporary in relation to its mode of production, its physical characteristics, and its probable future value. We copy as follows:

It is almost superfluous to say anything in regard to the great value of a cheap and good process for the utilization of leather waste. This waste represents millions of dollars annually. A process that could reproduce a texture of these cuttings, only half as good as the original leather, would be one of national importance, and would at once establish a new industry. The process by which the specimens above referred to are made, is, however, claimed to make uniformly an artificial leather even superior to ordinary tanned sole leather.

Examination of these specimens reveals the following facts: It is much harder than ordinary leather, and does not yield to hammering or compression nearly as much. It is very flexible and elastic. Thin shavings of it possess as great tensile strength as shavings of equal thickness of common oak-tanned leather. It is nearly, if not quite, impervious to water. It cuts smoothly and easily in working. With regard to its durability under wear, we have no doubt it would wear longer than sole, provided it does not decompose by exposure. We have no means of determining this latter point, but we are assured that it does not decompose or change under the ordinary circumstances of wear to which leather is exposed in its various uses.

It is claimed that the leather thus made is equally good for soles or belting; and our tests as to its tensile strength, flexibility and elasticity, certainly go to corroborate the claim.

A really good method for making artificial leather of scraps has, as our readers are well aware, long been sought; but heretofore nothing has been obtained that combined all the essential properties of good leather. The method under consideration was first brought out in Copenhagen, Denmark, and has been patented both in Europe and America.

The ingredients employed and their proportions are as follows: For first quality, one pound of caoutchouc for each three and a quarter pounds of leather pulp. For other qualities, the proportion of leather pulp is increased variously up to six for one pound of caoutchouc. The caoutchouc is dissolved in benzine or other solvents, and, when sufficiently dissolved, aqua ammonia is added in the same proportion as that of the rubber, and the mass is thoroughly stirred until it assumes a greyish white color. The leather pulp is then added, and the whole is kneaded into a plastic homogeneous dough of uniform consistency, which can be pressed or moulded into any required form, or rolled into sheets, as may be required.

The ammonia is claimed to act upon the animal glue in the cuttings, restoring to it its usual vitality, which it has lost to a great degree in the process of tanning.

The following are some of the properties and uses of this remarkable substance, as claimed by Mr. Oerting: Its waterproof quality makes it especially valuable for pump leather, as well for cold as hot water, and also for harness, as even a continued exposure to all kinds of weather has no effect on it, occasioning neither rot nor crack. It can be made endless, or of any length, width and thickness required, and of perfect uniformity as to wear, which is generally well known to be impossible with leather belts made of shorter pieces of different hides, and of unequal wearing capacity. It will stand any amount of heat and friction, as well as the most intense cold; will stretch less than any other belting, and can be changed from one pulley to another with ease and rapidity. It is very strong and substantial in the edge, and will stand a great amount of ill use without suffering any injury, and through its combined properties will supply a desideratum much needed. By suitable machinery for moulding, or forming the material in its doughy state into hose, fire-buckets, etc., for which purpose it is especially adapted on account of its impenetrability by water, and its capacity to withstand any amount of hardship, as well as extreme heat or cold, it will certainly

make the best as also the cheapest material yet produced for such purposes.

By a different mixture and proportion of the ingredients, a matting for floor covering is made, which, on account of its cheapness, its waterproof properties, and its capacity to keep rooms protected from cold and dampness, makes, it is claimed, an unequalled article for covering offices, passageways of public buildings, etc., which will withstand an immense amount of wear, and can very easily be cleaned. It is stated by the producer that the cost of the materials employed in its manufacture amounts to about 11 1-7, 13 1-2, 16 1-5, and 19 cents per pound for the different qualities, besides from 12 to 14 ounces of scrap leather, which prices, calculated after the present rates of the raw ingredients, would be reduced at least to 15 per cent. by a direct importation in larger quantities.

LINSEED OIL.—Linseed oil is made from the seeds of the flax plant (formerly called lint-seed), by grinding them in a mill, and pressing the powder by hydraulic or other power. When first pressed it is of a golden yellow color, but soon collects impurities from the air and turns brown. The impurities can be washed out by stirring water into it thoroughly, and leaving the water to settle. It contains no stearin, and hence does not congeal at low temperature. Its chief use is in decorative and preservative painting. Being mixed with the powdered colors, and spread on wood, stone or iron with a brush, it soon dries and hardens into a coating which acts as cement, varnish, and shield from weather. To quicken its drying it is often boiled before using. It is sometimes used in medicine as a laxative, and for this purpose is made from the raw seed without roasting. It is quite an important article of commerce.

VALUE OF AMERICAN PATENTS IN EUROPE. The American origin of an invention, says the *Anglo-American Times*, is now a recommendation in Europe, where many of these inventions are in successful operation, and large fortunes have been realized by their introduction. Improvements relating to some manufactures are of great value in this kingdom. Mr. Bessomer derives an annual income of about \$2,000,000 from his British steel patents, and the patentee of a device for dressing millstones by a revolving diamond, has realized over \$1,000,000 the first year of his patent. The use of a diamond for this purpose is an American invention, and the estimated value of the exclusive right in England, for ten years, is \$5,000,000. British patents, as a rule, are the most valuable, but many inventions are equally profitable in other parts of Europe, and some are peculiarly adapted to Continental wants and customs.

MAGNETISM OF WATCH SPRINGS.—It has recently been discovered that the springs of chronometers and watches, which are constructed of steel, are frequently magnetic. Steel is at all times liable to become magnetized from causes beyond man's control. Watchmakers are advised to test their springs as to magnetism, by placing them near to a very small and truly balanced mariner's compass. If the spring exhibits in none of its circumference any tendency to attract one pole of the compass more than the other, it may be considered free from magnetic influence; on the other hand, if the north pole to the other, the spring is decidedly useless; for in whatever position the time-keeper may be placed with such a spring it will be affected with the earth's magnetism.

SALERATUS FOR LIFE-BUOYS.—A self-inflating life-preserver has been devised in Belgium, consisting of a belt containing carbonate of soda and tartaric acid, so arranged that, when the wearer falls overboard, the two substances are mixed and evolve sufficient gas to float him. The idea is said to have been suggested by a shipwrecked apothecary, whose life was saved by the circumstance of his having a box of Seidlitz powers in his pocket.

NITRO GLYCERINE.—When nitro-glycerine is caused to fall drop by drop upon a thoroughly red hot iron plate, it burns off as gunpowder would under the same conditions; but if the iron be not red hot, but hot enough to cause the nitro-glycerine to boil suddenly, an explosion takes place.

THE Farmers' Club, of Santa Clara, "solicit communications from all who have information to give, or who desire to receive information from the Club."

WOOL EXPORT.—About 12,000,000 lbs. of wool—6,000 tons—have been exported from this State during the past nine months.

GOOD HEALTH.

Importance of Healthy Action of the Bowels.

There is nothing which one can do with a little care, more likely to aid decidedly in the preservation of health, than to ensure regular and healthy action of the bowels.

The bowels are properly a tube, canal, or passageway, through which a certain proportion of the waste matter of the body should pass. Mainly, these waste matters are made up of substances eaten which are indigestible, and matters which are secreted in the bowels from the blood, forming what is called feces, or waste matters of the bowels. This collection of matters needs to pass out of the body as often as once in twenty-four hours. If neglect is had in this respect, and the substances there gathered are permitted to remain longer, unnatural heat of the part is established, and so disorder of the organ begins.

I would, therefore, urge intelligent action with reference to the evacuation of the bowels every day, and in this direction of the following suggestions:

First. Let your food be made up in part of substances which cannot be acted upon by the gastric juice and made into blood, but which, retaining the original form, are carried all along through the intestines until reaching the lower bowel they gather and are cast out at stool.

Whoever eats food which is altogether nutritious, will find after awhile that it is not healthy. A certain proportion of food of every meal needs to be made up of coarse materials which do not make blood. These serve the purpose of exciting the mucous membrane of the intestines to action, thus causing the proper excretion of the waste matters to flow into the bowels, and thus aiding in purifying the blood of substances which, remaining in it, would greatly deprave it. The bread which you eat should be unbolted, and for that matter, unleavened when cooked. If you eat fruit, a portion of it should be eaten with the skins on, such as that of good nice apples or pears. Berries retain their seed, grapes are healthy for persons of constipated bowels, eaten with the skins, though the seeds should be expelled. Potatoes are more valuable as food if they are baked and the skins eaten, than if they are boiled and the skins thrown away. If you would insure healthy action of the bowels, eat coarse food.

Second. One of the best aids to healthy and regular action of the bowels is the use of soft water. Hard water is objectionable. Soft water is very desirable. Wherever, therefore, you may be, if you can get soft water to drink, by all means use it.

Third. Wash your body over as often as two or three times a week. This of itself helps very materially to keep the bowels in a healthy state.

Fourth. Taking at evening once a week a sitz bath in water at a temperature of 85° to 90°, and sitting in it twenty minutes, rubbing the bowels well with the hand while thus situated, has a direct tendency to promote action of the bowels.

Fifth. Having a particular time in the morning, say immediately after breakfast, when you will retire and relieve the bowels of their contents, is of great service, especially so if during the day you are to be confined to your room in study, or occupying a sitting posture. Where one is upon his feet, walking about or working, the period of seeking to relieve the bowels at stool may be left to his own instinctive impression. But where one is sitting down, the posture itself is unfavorable for organic sensibility of the bowels to show itself, and thus to neglect to be regular, is to induce constipation.

Of diseases which render their subjects incompetent for physical or continuous severe intellectual labor, there is none that is more to be dreaded nor any which produces more deplorable effects, than habitual costiveness. I say this because, in my experience among sick folks, I scarcely ever find a person who suffers from severe diseases who is not a sufferer from disordered bowels.

Were I to describe the various ailments, ending in sickness and death, to which persons living in America are more particularly liable, and from which they suffer immensely, it would be difficult for me to enumerate them without counting in as one of the predisposing or provoking causes of their existence, inactive bowels.

If, therefore, you do not wish to be sick, be sure that you care for yourself, in this direction, and allow no day to go by without having the bowels thoroughly emptied.

In that way you may not only promote your health and strength, but save yourself from severe diseases.—*Laws of Life.*

Bed and Bedding for the Sick.

If a bed is higher than a sofa, the patient often prefers not to get out at all, rather than to undergo the fatigue of getting out. If the bed was a low one, he might often feel like taking a few minutes' exercise every day in other rooms, or even in the open air. It is so very odd that people never think of this, or of how many more times a patient who is in bed for 24 hours is obliged to get in and out of bed than they are who only get into bed and out of bed perhaps once during the 24 hours.

A patient's bed should always be in the lightest spot in the room, and he should be able to see out of a window. It is scarcely necessary to say that the old four-post bedstead, with curtains, is utterly inadmissible, whether for the sick or well. Hospital bedsteads are in many respects very much better than private ones.

There is reason to believe that not a few of the cases apparently resembling scrofula among children proceed from the habit of sleeping with the head under the bed-clothes, and so inhaling air already breathed, which is further contaminated by exhalations from the skin. Patients are sometimes given to a similar habit, and it often happens that the bed-clothes are so disposed that the patient must necessarily breathe air more or less poisoned by exhalations from the skin. A good nurse will be careful to attend to this. It is an important part, so to speak, of ventilation.

It may be worth while to remark that where there is any danger of bed-sores, blankets should never be placed under the patient. It retains damp, and acts like a poultice.

Never use anything but light blankets as bed covering for the sick. The heavy cotton and impervious counterpane is bad, for the very reason that it keeps in the emanations from the sick person, while the blanket allows them to pass through. Weak patients are invariably distressed by a great weight of bed clothes, which often prevents their getting any sound sleep whatever.

One word about pillows. Every weak patient, be his illness what it may, suffers more or less from difficulty in breathing. To take the weight of the body off the poor chest, which at best is hardly up to its work, ought, therefore, to be the object of the nurse in arranging his pillows. Now what does she do and what are the consequences? She piles the pillows one upon the other like a wall of bricks, the head is thrown upon the chest, and the shoulders are pushed forward, so as not to allow the lungs room to expand. The pillows, in fact, lean upon the patient, not the patient upon the pillows. It is impossible to give a rule for this, because it must vary with the figure of the patient.

Tall patients suffer much more than short ones, because of the drag of the long limbs upon the waist. But the object is to support, with the pillows, the back below the breathing apparatus and above the hips, so as to allow the shoulders room to fall back, and to support the head, without throwing it forward. The suffering of exhausted patients is greatly increased by neglect of these points. And many an invalid, too weak to drag about the pillow himself, slips his book or anything at hand behind the lower part of his back to support it.—*Boston Journal of Chemistry.*

TOO LITTLE SLEEP.—Students, as a class, do not sleep enough. There is no law so fundamental and imperative on the student as the law which requires him to sleep, and no other law does he so systematically and recklessly ignore.

It is a popularly accepted fallacy that students and literary men do not require as much sleep as mechanics and laborers. Physiology shows us that, during the operation of the intellect, rapid changes of tissue take place, and that a few hours of close application to thought and study exhaust the system more than two or three times the same period devoted to manual labor. It is evident, then, in order to compensate for this greater waste of tissue, that the brain worker will require more sleep than the muscle worker.

In the violation of this first great hygienic commandment is found the secret of most of the special diseases to which the student is liable. To this cause can be traced the eye affections that are so common. By neglecting to obtain sufficient rest, the system becomes relaxed and its tone lowered, thereby inviting disease, of which these organs, being especially overtasked and weakened, are the first to become sensible.



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SAN FRANCISCO:
Saturday, Dec. 9, 1871.

Our Weekly Crop.

Having introduced "A New Reclamation Enterprise," which will doubtless soon call to our shores a largely increased immigration, the next most natural want is a proper "Design for a County Residence," which our architect and artist have united to produce for the benefit of all concerned. On entering our library, and passing by many things of "Mechanical" and "Scientific" interest, we find a mass of correspondence from which we select for present reading some "Notes of Travel in Santa Clara;" some interesting facts with regard to "The Resources of Montana" and "Rains in the San Joaquin Valley."

Passing out into the Horticultural Department, we pause to examine a grove consisting of "Some Tropical Fruit Trees now being or likely to be Cultivated in California," near by may be seen a novel and "Scientific Chicken Fountain." After looking over some notes of the last meeting of the "Santa Cruz Farmers' Club," and a few brief "Farm Hints" and our customary "Agricultural Notes," we pass on to the examination of some of our "Home Industries," prominent among which we this week note "Beet Sugar Making," "The Standard Soap" works, and the "Mission Candle Factory;" an interesting article on "The Cashmere or Angora Goat" and a chapter devoted to "Useful Information" and "Good Health." We next learn something about "California Hard Timber" and the "Gold Medals;" "Sage Brush Ashes as a Fertilizer;" "Humboldt Maize" and the advantages of "Sowing the Best Seed;" while our artist has furnished us with a beautiful illustration of some of the wonderful developments of the microscope, after examining which we take a peep into the "Mechanic's Institute," and a look, "Astronomical," which brings us round once more to the "Home Circle," where we listen to "The Old Man's Dream," and many other interesting things pertaining to home and household matters.

OUR BULLETIN-BOARD.—The elegant and unique bulletin-board, which we have placed in front of our office this week, was painted by F. Mansel, No. 412 Pine street. Mr. Mansel is one of our best-known sign painters, and specimens of his work may be seen in all our principal streets. His signs are always neat and tasteful, and his charges reasonable.

BARN BURNED.—A barn belonging to J. C. Anthony, situated on the Sonora road, about twenty miles from Stockton, was destroyed by fire on Saturday last. The building contained some twenty-five tons of hay, a threshing machine, a header, besides a number of other farming implements.

CROWDED OUT.—The pedigree of "Geo. M. Patchen," is in type, but again crowded out.

California Hard Timber—The Gold Medals.

The Committee appointed by the State Board of Agriculture to award the gold medals offered by the Society, for the most meritorious exhibition in each of these seven departments into which the Fair was divided, awarded the medal for the second department, machinery, to E. Soule, of Sacramento, for "farm wagons, and wagon materials made from California-grown locust timber." The exhibition made by Mr. Soule was very small and apparently insignificant, compared to some of the magnificent displays of elegant carriages made by parties in this city and at Sacramento, or compared to the exhibition of other classes of agricultural and mining machinery made by other parties in the same department. But when we take into consideration the reason of the award, Mr. Soule's exhibition has a significance which places it in a very important and meritorious light.

The object of the award was to recognize and compliment Mr. Soule for demonstrating the fact that California can grow just as good hard timber for use in the construction of wagons and other machinery requiring that kind of timber, as any other country, and incidentally, to encourage the cultivation and growth of hard timber by our farmers and land owners generally. In this light the award was a most judicious one.

We may take and lecture our people in favor of supporting, by their patronage, the mechanics and manufacturers of our own State. We may call on the farmers to buy home-made wagons, carriages, and agricultural machinery in preference to the imported articles, for the purpose of encouraging and supporting home enterprise and industry and giving employment to home labor, but all our efforts in this direction will meet with but limited success so long as those mechanics and manufacturers are compelled to import all their raw material from the Atlantic States. The importers of these articles ground their hopes of success and actually secure that success on the one fact alone, that the raw material which our home mechanics are compelled to use is grown thousands of miles away and at the very doors of those who make the articles they import. The most effective mode of assisting and encouraging our own mechanics then is to induce the production here of the material upon which the foundation of their complete success depends. This material is hard timber.

Mr. Soule by experiments and actual test has proved that California-grown locust is equal if not superior to that grown in any other country. He built some years since the wheels of a couple of heavy truck wagons, the hubs being turned out of California-grown locust. These wagons have since been in constant use through the extreme wet and dry seasons at Sacramento, without being touched by a mechanic for repairs, and are as perfect and strong today as when built. If the locust grown here proves of such value, then why will not elm, hickory, ash, oak, and other hard timbers of known good qualities prove equally good? Let our farmers plant the trees and grow the timber, and let our mechanics put it to the test, and in this way work for the mutual benefit of each other and the benefit of the State in general.

The business of forest culture is being extensively engaged in in the States of the Atlantic slope, and the nurserymen of those sections produce the young trees annually by millions, and find a ready sale for all they produce. They have reduced the business to a science and so economized and perfected it, that they are enabled to sell one-year-old trees, of most all desirable kinds, at the rate of two dollars per thousand. They pack these trees and send

them to their customers at great distances through the postoffice with perfect safety. They may in this way be sent to California cheaper than in any other, and just as safely. Many of our nurserymen obtain their stock of seedling fruit trees from the East through the postoffice.

Sage Brush Ashes a Fertilizer.

Something may be learned sometimes where least expected. In the Humboldt Valley, living at one of the old stage stations, four or five years ago, was a family who made a fine garden from year to year, around the station. Sage brush growing large and vigorous was all the resource for fuel.

The wife desiring to cultivate a few vegetables and try the experiment of growing strawberry vines, had the soil broken close by the house, and while setting out her plants found that a portion of the same had become mixed with the ashes that had been thrown there. She became dubious about the welfare of the plants, and set the most of them on a portion of the ground free from ashes; but having a few left, and not wishing to throw them away, she set them, with no expectation of seeing them live, where the ashes were mixed with the earth.

As the season advanced, the plants thrived, blossomed and bore fruit; but the few set out as she called it "in the ash bed" produced amazingly, and far excelled the others in quantity of fruit.

The next year the same family planted a large area of ground to vegetables, and to try the experiment, scattered the ashes of the sage brush which they had been saving all winter, plentifully over the soil. The result was larger vegetables and greater quantities than they had ever raised before. This may be an important fact to those who are clearing up the sage brush land preparatory to its cultivation.

The above furnishes another evidence of that which has long been foreshadowed that the large tracts of land in Nevada, Idaho, and elsewhere, that produce an abundance of sage brush to the exclusion of almost everything else, may yet bring forth an abundance of vegetable and cereal products, and be found to possess all the qualities of soil necessary to make them a paradise for farmers.

Along the banks of the Truckee are found many flourishing little farms, and from year to year the sage brush disappears and the progress of cultivation leaves its footprints in soil that has been considered unproductive and useless. Strawberries especially are found to be well suited to this soil and climate. The much despised sage brush may be found to be useful in more ways than one yet.

Humboldt County Maize.

While Humboldt county enjoys an unparalleled reputation for potatoes, and unlimited lumber resources, it has the credit of producing the best maize grown in California. According to good authority maize can be grown in but few localities of the State—the soil being too dry, and the nights too cold. In Humboldt bottom lands the small valleys produce an excellent quality of this important staple—the average crop to the acre has never been over 35 bushels. Green maize comes into market the last of June, and during July. If a little more attention was paid to this production in the valleys of Mendocino and Humboldt, it would doubtless be attended with profitable results.

In Mattole Valley are some very enterprising and energetic farmers, who have the soil which can produce maize, and the right climate to insure its healthy growth and abundant yield. The limited attention that has been paid to maize growing in the valleys of lower Humboldt, justifies the trial and prove that it can be more successfully cultivated.

Sow the Best Seed.

Doubtless, very great injury results from year to year to the common staple crops of the country, from the use of inferior seed. "Like produces like," should be the rule of every action in the rearing of plants or animals.

A farmer has raised a crop of wheat, but for causes which he could not control, his grain is not perfect, and yet on the market may sell very nearly as well as the best; still it is defective, perhaps shriveled; he is about to sow for his next year's crop, perhaps a large quantity of seed.

He knows that this year his neighbor was successful in growing a crop of excellent wheat; but he would no more think of paying that neighbor money for seed wheat, which he claims to be able to propagate as well as the best, than he would to ask him the best way to hold a plow. His false pride will prevent him, perhaps, if nothing else. He therefore prefers to use his own seed though it be imperfect, and yet with some misgivings as to the result or effect upon the expected crop, his good judgment pointing one way, his pride another.

Now if his crops should turn out defective in consequence of using poor, defective seed, should he be surprised at the result? We believe he gets just what is due, the very result he might have expected from his parsimony and false pride.

The intelligent cultivator of the soil allows no motive to interfere in preventing his procuring under any circumstances the most perfect seed that can be obtained regardless of trouble or cost.

Greater benefits result from a careful attention to this principle and its application, than the unthinking are willing to admit. But with those who have made it a matter of experiment, no argument can swerve them from a belief in the advantages of sowing none but the best seed.

Los Angeles Walnuts.

The first English walnuts were planted in Los Angeles county in 1857. They commenced bearing in three years, the crop increasing every year. In the year 1863 the crop amounted to 9,200 pounds. Previous to 1860 the walnuts used in California were all imported from China and Chile to the amount of nearly 30,000 pounds annually.

The flavor of the walnuts raised in Los Angeles is finer than that of the imported nuts. Near San Gabriel, or the Gabriel Mission, the walnut tree is found of larger size and bearing the best of nuts. These trees were set out by the missionaries. Los Angeles county supplies a large demand for walnuts, and as Southern California becomes more settled, walnut trees will be grown more extensively adding an increased resource of wealth to this delightful portion of our State.

THE KERN COUNTY COTTON PLANTATION. Four and a half miles of a ditch has already been completed on the Kern County Cotton Plantation, which will eventually be continued for a distance of 13 miles, with a capacity for irrigating 80,000 acres of land. The water is taken out of Kern river about a mile northeast of the town of Bakersfield. About 1,000 acres of cotton will be planted by the association the coming season, and ample provisions for irrigation, which are already provided, should it be needed. It is the design of the company to manufacture the cotton on the spot, rather than send the raw material to market. We trust there will be no lack of capital to carry out this portion of the programme, as it will undoubtedly largely add to the aggregate profits of the association, and prove of a decidedly increased benefit to the general industrial interests of the State.

Notices to Correspondents.

ALFALFA.—The letter of enquiry from Mr. Smith, of Roseberg, Oregon, with regard to the culture of alfalfa, will be fully answered next week.

RAISIN CULTURE.—The queries of "J. E. C.," of this city, with reference to "Raisin Culture," will receive attention next week.

ON FILE FOR INSERTION.—"Notes on Half-Moon Bay;" "Cotton Growing in California;" "Cotton Culture on Stearn's Rancho;" "Practical Experience in Blackberry Culture;" "California Merchants in Montana;" and an enquiry with regard to "Silk Culture."

PLOWS.—Mr. Corrines, of Gallatin City, Montana, wishes to know which is the best plow for "scouring." His land is very clayey or mucky, and he has had two or three single-handed plows (one a silver steel) and they do not give satisfaction. Will some of our practical farmers who have had experience in plowing such soil answer Mr. C.'s query.

FERTILIZER FOR WHEAT.—The reply to the query of "J. L. B.," of Centerville, as to wheat fertilizers and the best remedy for falling grain, is prepared, but crowded out this week.

ATMOSPHERIC IRRIGATION is a matter too little thought of by farmers generally, and yet it is of the utmost importance in a dry climate or in a season of drouth. The value and philosophy of atmospheric irrigation and how to promote it, was clearly set forth by Mr. O. L. Abbott, in one or two late issues of the *Santa Barbara Press*, which we have on file for early reference.

MONTANA WHEAT, AND WHEAT IRRIGATION.—F. S. Reed sends us a sample of wheat raised by him on his ranch at Helena City, Montana. He says of it: "The first I got I picked from a mixed lot of wheat brought from Salt Lake to this Territory. I subsequently realized at the rate of 50 bushels per acre from this wheat on clean potato land, and 30 bushels per acre on badly broken sod."

I will give you my way of irrigating. I have my head ditches 125 yards apart, and the small furrows in the grain three feet apart, and let the water run in them until the ground is thoroughly saturated, say from two to three days.

Which do you think the best plan for irrigating, by flooding or in small furrows? My experience is that it is best to irrigate black loam or sandy soil in furrows, and alkali soil by flooding. You cannot saturate alkali ground more than twelve inches from the furrows. As we can raise nothing here without irrigating, anything on that subject will be very welcome to your patrons in Montana.

We have as yet had very little practical experience in California upon the subject of irrigation, and any facts bearing thereupon from practical farmers will no doubt be very acceptable to our readers generally. The sample of wheat which accompanied the above note was of a very fine quality, and furnishes additional evidence of the capacity of the soil and climate in Montana for the production of the cereals.

ED. PRESS.—I herewith send you a sample of wool, which I have just pulled from a species of wild animal, inhabiting the high and rocky mountains of this Territory. I send you this sample, that it may be examined by competent judges as to its value, etc. J. C. ROBINSON.

Deer Lodge City, Montana, Oct. 20, '71.

The sample of wool sent us is of but little value, from the fact that it contains a quantity of kemp or long hair, which will not work up into the fibre of cloth. The animal from which it was taken, is commonly called the mountain goat, but is a species of antelope (*Aplocerus Montanus*), which inhabits the elevated plateaus and remote fastnesses of the Rocky Mountains. This hair or wool might perhaps be used with the coarser kinds of common wool in Eastern factories, in the manufacture of the roughest class of goods, if it could be obtained in sufficient quantities; but it is worth nothing in the California market. We shall give an illustrated description of this animal next week.

GYPSUM.—"W. F. A." There is but little demand for gypsum in this city, and the market is at present overstocked with a very excellent article from Lower California. Farmers in this State have

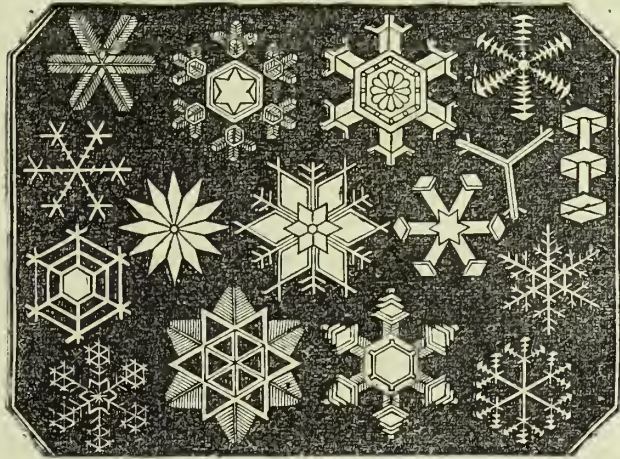
not yet learned to appreciate its value for manurial purposes. It is employed to a limited extent, in Washington Territory, for the purpose of killing off the sorrel, which grows very rank in many localities in that Territory, to the great annoyance of the farmers. The time will come when gypsum will be appreciated here as well as at the East. It is much more valuable in a dry than in a wet climate; the reasons for which we will give in some future number of the *Press*, for the information of our readers generally.

Snow Flakes.

Hast thou entered into the treasures of the snow.—*Job.*

Science alone can teach us to realize the full meaning of the above words. Nothing but inspiration or a higher knowledge than existed for the 2,000 years anterior to the present century, could have enabled Job to have written the sentence we have quoted. The keenest human eye can see but little of the handiwork of God, and nothing but the microscope or inspiration could teach us that almost every drop of water teems with life. Nothing else could make us realize the beautiful forms into which water will crystallize—or "the treasures of the snow."

The annexed engraving represents the various shapes of snow flakes as seen through the microscope. They are found to be



composed of perfect crystals of a great variety of the most regular and beautiful forms. "It is impossible to calculate the good the microscope has done the world of science; even religion has been benefitted by it—microscopic studies having a tendency to lift our thoughts to the great Creative Source of our being, to Him who has not designed the minutest part of the minutest object without reference connected with the whole. With its help we have been enabled to discover *life and organization* where, before, it was never suspected. A drop of stagnant water, for instance, when viewed through a high power of microscope, presents the wonderful sight of myriads of moving animalcules. Blood through the same medium consists of millions of little globules floating in a red fluid called *serum*. A crumb of cheese is literally crowded with minute living mites."

ASTRONOMICAL.—Venus is now the morning star, and a brilliant object just before sunrise. She has just passed her point of greatest brilliancy, and continues still to show a crescent-shaped form. This is a favorable time for telescopic examination of her surface for suspected inequalities, but the scrutiny of this planet is a matter of difficulty.

MARS is now near the sun. On the 13th of Nov. he set at 6.35. P. M.

MERCURY is always near the sun, but during the last month has been situated particularly unfavorable for observation.

JUPITER is now visible nearly all night.

SATURN is fast disappearing below the horizon, setting at this time about 5.42.

URANUS is now near, and closely following the planet Jupiter.

ENCKE'S COMET, which we have recently noticed once or twice, is but a faint object, seen only by aid of a telescope.

MISS ADA GREELEY, daughter of Horace, is highly proficient in the science of mathematics.

Meeting of the Mechanics' Institute.

A quarterly meeting of the Mechanics' Institute was held on Saturday evening last, in the library hall. The report of the Board of Managers was read. It showed that the Fair had been open to the public 24 days; number of exhibitors, 1,029; total receipts, \$62,846; total disbursements \$30,991.91; net proceeds, \$31,854.09.

The amount applied during the past term to the liquidation of debts owing to creditors of the Institute, \$20,438. Amount realized in sale of building and fixtures, \$6,800. Balance on hand and due, which has now been transferred to the Board of Trustees, \$19,096 85.

The report recommended that hereafter the practice of awarding premiums to the exhibitors be discontinued, and also suggested the propriety of procuring a permanent building for exhibitions, provided it could be done without great outlay.

President's Report.

The report of President Hallidie showed that the debt of the Society had been diminished from \$37,000 to \$5,000. That in March, 1868, when he assumed the duties of his office, it amounted to \$53,000. The remaining debt was so small that it could be easily extinguished.

The present membership numbers 1,143, with an average monthly increase of 30.

During the past quarter, 85 new members had joined the Institute; 385 books had been purchased; \$15,000 had been

paid to extinguish debts. There remained, as a balance of cash on hand, \$1,161.89; moneys receivable, \$2,935; moneys payable, \$1,500.

The financial accounts are as follows: Current receipts, \$3,240; current expenses, \$2,984; quarterly balance, \$256. The President congratulated the members on the healthy financial condition of the Society, and his report was received with applause. Notice of motion to amend the Constitution and By-laws was given by a member, and the meeting then adjourned.

The Century Plant Again.

While in Stockton, a few days since, we had our attention called to a remarkable coincidence in the flowering of two century plants. At the residence of Dr. Reed, who formerly had charge of the Lunatic Asylum, the two plants in question were set out on either side of the front gate, about sixteen years ago. There they stood, but a few feet apart, with nothing very remarkable in their appearance, until this past summer. Suddenly they started, as century plants have a way of doing, and each sent up one of those astonishing flower-stalks with its odorous blossoms.

Whether this concert of action was agreed upon, beforehand, by the individuals, we were not informed; but, however, that may have been to see two century plants blossoming within twenty feet of each other is no common thing in this part of the world. Another specimen of the *agave* also bloomed in the court-house yard, and must have been a public blessing as a topic of conversation, where the weather changes so little.

The wild geese on the plains in Stanislaus county, are reported as eating up the newly sown wheat.

A WOOLEN mill will soon be built in Santa Barbara.

The Legislature.

Both branches of the Legislature having completed their organization, the inauguration of Gov. Booth took place on Friday, accompanied by an imposing demonstration, and on the same day Lieut. Gov. elect Pacheco was installed as President of the Senate.

The last annual message of Gov. Haight and the inaugural address of Gov. Booth had neither been received at the time of our going to press.

The members of both the Senate and Assembly are spoken of as a body of men rather above the general average of past Legislatures in point of personal appearance and intelligence; but their real metal and character cannot be known until after they have got well into the business of the session. The people are looking anxiously and hopefully for the fruits which they will bring forth, and by the character of which they must be judged. We shall note the progress of all matters of general interest for the benefit of our readers.

The Galway Peach.

The following is an extract from the report of a committee of pomologists to the State Board of Agriculture on this new peach. We publish it at this time so that those who are preparing to plant peach trees this winter may have the benefit of the information it contains. We would also state that we examined the peach ourselves at the State Fair and fully endorse the favorable report of the committee.

"This is a large, yellow free-stone peach, imported from England in 1864 by the late Isaac Pullen, of New Jersey. Introduced into California by E. F. Aiken, of Sacramento, in 1868, fruited for the first time this year. James Alexander Fulton in his new work on peach culture, describes it as follows. 'It is a large peach of very great beauty and good quality, nearly round, with suture well defined towards the apex. Terminal point distinct. Its distinctive virtue, however, is its late ripening—several days after the one, which has, heretofore, been considered our latest free-stone peach.' Your committee believe that the description as quoted above is fully sustained in the samples exhibited, and that the time of ripening in this locality is from the 20th of September to the 20th of October. The character of the wood and foliage indicates hardness and comparative exemption from the curl leaf. We think it is a valuable acquisition to our list of fruits and worthy the attention of fruit growers."

A Directory Wanted.

EDS. PRESS.—Would it be too much trouble for you to give weekly, in the *RURAL*, some kind of a directory for the benefit of your numerous readers in the different parts of the country, by which they might be able to tell, on making their visits to the metropolis, what kind of a hotel to select, commensurate with their means. It is a noted fact that farmers and others who come to the city are quite too often a ready prey to the numerous "runners" who infest the wharves. I am quite sure it would be very convenient to many of us to be able to know beforehand where we wanted to go so as to avoid the importunities of these fellows, and select the one which we wished to stop at without hesitation. I, as well as many of my neighbors, am a subscriber to the *RURAL PRESS*, and take no other paper, and we see no advertisements of such things. I think a directory would be useful and a list of the places of amusement would also be convenient.

Fresno Co.

I. N.

The suggestion of our correspondent is a good one, and we should heartily sanction it, if the hotel-keepers, etc., would only make the necessary motion.

AN AGENT WANTED.—S. M. S. writes us from San Juan, Monterey Co., as follows: "The people here are so well pleased with your *RURAL PRESS*, that if you had an agency established here, your circulation might be increased very much throughout the county. The county has a population of about 10,000; assessable property to the value of about \$4,000,000; area in square miles 4,356. The greater portion of the land is suitable for agricultural purposes, though used at present principally for grazing." Will some of our friends get us up a large club in that section.



The Old Man's Dream.

Oh, for one hour of youthful joy;
Give back my twentieth spring;
I'd rather laugh a bright-haired boy,
Than reign a bearded king.

One moment let my life-blood stream
From boyhood's font of flame!
Give me one giddy reeling dream
Of life, all love and fame.

My listening angel heard the prayer,
And calmly smiling said;
"If I but touch thy silvered hair,
Thy hasty wish hath sped.

"But is there nothing in thy track,
To bid thee fondly stay,
While the swift seasons hurry back
To find the wished-for day?"

Ah, truest soul of womankind!
Without thee what were life?
One bliss I cannot leave behind;
I'll take—my—precious—wife!

The angel took a sapphire pen
And wrote in rainbow hue,
"The man would be a boy again;
And be a husband too!"

"And is there nothing yet unsaid
Before the change appears?
Remember, all thy gifts have fled
With these dissolving years.

Why, yes; for memory would recall
My fond paternal joys;
I could not bear to leave them all—
I'll take—my—girls—and—boys!

The smiling angel dropped his pen:
"Why, this will never do;
The man would be a boy again,
And be a father too!"

And so I laughed—my laughter woke
The household with its noise—
I wrote my dream when morning broke,
To please the gray-haired boys.

The Right Kind of a Home.

A pleasant home is one of taste and orderly neatness, of pleasing surroundings and happy faces. A certain delicacy of ideas finds exhibition in a happy, pretty home, a genial something in the atmosphere—evidences of skillful hands and happy hearts rest over, and seem a part of the very furniture, the books, the pictures on the wall, and every article that helps to adorn the spot. It should ambrotype the highest idea of heaven—a retreat among warm hearts, cheerful voices and welcome smiles; a retired nook, nestled away from the world, snugly ensconced in a clime of joy and restful happiness.

Home! Flowers, beautiful and odorous, should blossom in the yard, and creep up the porch, and around the windows; shade trees should spread their branches over the walks, and stand, like sheltering sentinels, around the house. Everything that is pleasant to the eye should be the surroundings of every home.

Home! Within its walls quiet should sit forever, with her snowy wings peacefully folded; rude voices should never break its sacredness, discord never jar the harmony of the spot.

A picture of the right kind of a home is one where, at evening, the outer world is shut out, with all of its burdens and heavy, grosser cares. The ruddy firelight falls upon a tableau of smiling faces, where confidence reposes in the hearty roses of the cheek and the sunlight of the eye. It is a spot where quiet holds a sacred realm, and greets the inmates as they pass in and out, as a refreshing breeze soothes the tired and heated traveler at the close of day. It is a sanctuary for the world-weary, where cares are laid off at the door, and burdens forgotten as the hat and coat are flung upon the rack. The whole house seems full of rest and happiness; the shadows on the wall look merry, and every sound that echoes through the house bears on mystic pinions a cheerfulness, melodious and sweet.

A completely happy home must seem something like this ideal sketch. There are a few such, but there should be so many their name would be legion; and the more of them, the better for the pros-

perity of both people and country. When the homes are of the right kind, there will be less of wrong in the world, and fewer criminals. Commence at the homestead, to correct and prevent the evils that are so hard for even the law to check, and there will be more leisure for members of the bar, and more to be proud of as a nation.

L. L.

A Reprehensible Parent.

The following pathetic letter is from a young lady living, or rather "staying," among the hills of New England:

I am the only daughter at home—no brothers. My father is in possession of a farm of 250 acres, clear of debt, and money at interest. We have eleven cows, one hired man, and mother and myself alone with the work. We make the butter. I am troubled some with a cough. Our physician pronounces my lungs at least slightly diseased, and recommends riding. We have one small horse, which I can harness, and should enjoy driving very much; our only wagon is a lumber-box, shabbily painted and hard running. Our harnesses are old and patched. When I go I must drag over the hills in this shape. The fact is, either driving or riding in such style affords me no pleasure; I had much rather remain home. When a new buggy is proposed the answer is, "Can't afford it," or "This style is good enough for me," though of late the excuse more frequently has been "No place to keep one." We have three good-sized barns, but spare room is mostly occupied with old sleighs and carts. We are expecting in several hundred dollars soon, but suppose it will be "put out."

The matter being brought to the attention of Mrs. Kate Hunnabee, that excellent lady, makes reply (which we print below), and gives expression to sentiments that are not only true now and in New England, but at all times and places:

If four Chinamen were to go out gold-hunting in the hills of California, and agree that one of their number should not hunt for "pay gravel," but stay in the camp to cook, wash, iron, and mend, wouldn't it be fair that they should give him a quarter of the dust?

If a fishing smack off Cape Cod has a crew of half a dozen, one of whom consents to stay in the fore-castle and cook and clean, while the five are flinging the lines, would it be any more than fair for him to have a sixth part of the codfish?

King David's rule is a good one: "As his part is that goeth down to the battle, so shall his part be that tarryeth by the staff; they shall part alike. And it was so from that day forward, that he made it a statute and an ordinance for Israel unto this day."

That industrious wife and daughter who make the butter of eleven cows have just as good a right to an easy buggy, a sound harness, and a lively horse as the farmer has to the satisfaction of knowing that the summer gains are all put out on first mortgage.

Fashion Notes.

The latest idea is to have the instep of the ladies' boots padded, so as to give the high-arched appearance which is so very much admired.

Ladies will dress very plainly this winter. Black will be the customary wear for the street. The reaction from shoddyism in society has been so great that there is danger of absurdity in the other extreme. Remember in *medias res*, ladies.

Tortoise-shell jewelry will be much worn by gentlemen, with business suits, this winter. It is neat, pretty and unassuming. For full dress, plain dead gold is the proper thing.

The handsome India shawls are being worn made into a close-fitting sack or double cape, which can be done without cutting or injuring the shawl. Ladies prefer this way of wearing them, as a shawl folded in the old style can hardly be worn gracefully with the present style of large paniers and looped skirts.

Egyptian women are to be unveiled, hereafter, says the Khedive.

Among the new fashionable colors are prune, putty, pastile, drab and apricot.

To KEEP INSECTS OUT OF BIRD CAGES.—Tie up a little sulphur in a silk bag and suspend it in the cage. For mocking birds it is essential to their health, and the sulphur will keep all the red ants and other insects from the cages of all kinds of birds. Red ants will never be found in a closet or drawer if a small bag of sulphur be kept constantly in these places.

What is a Gentleman?

In the course of an address to the Leeds Young Men's Christian Association, delivered by the Bishop of Manchester, his lordship said: Some people think a gentleman means a man of independent fortune—a man who fares sumptuously every day; a man who need not work hard for his daily bread. None of these things make a gentleman—not one of them—nor all of them together. I have known men, when I was brought closer in contact with workmen, than from my changed position, I am brought now; I have known men of the roughest exterior, who have been accustomed all their lives to look after horses and follow the plow, as thorough gentlemen in heart as any nobleman that ever wore the ducal coronet. I mean I have known them as unselfish, I have known them as truthful, I have known them as sympathizing, and all those qualities go to make what I understand by the term "a gentleman." It is a noble privilege which has been sadly prostituted, and what I want to tell you is that the humblest man in the city of Leeds who has the lowest work to do, yet, if his heart be tender and pure and true, can be, in the most emphatic sense of the word, "a gentleman."

THE HUSBAND.—Ladies sometimes do not value their husbands as they ought. They not unfrequently learn the value of a good husband for the first time by the loss of him. Yet the husband is the very roof-tree of the house—the corner stone of the edifice—the keystone of the arch called home. He is the bread winner of the family—its defence and its glory—the beginning and ending of the golden chain of life which surrounds it—its controller, law-giver, and its king. And yet we say how frail is that life on which so much depends. How frail is the life of the husband and the father! When he is taken away who shall fill his place? When he is sick, what gloomy clouds hover over the house! When he is dead, what darkness, weeping, agony! Then poverty, like the murderous assassin, breaks in the window—starvation, like a famishing wolf, howls at the door. Widowhood is too often an associate of sackcloth and ashes. Orphanhood too often means desolation and woe.

CLEANLINESS.—A neat, clean, fresh aired, sweet, cheerful, well arranged house exerts a moral influence over its inmates, and makes the members of a family peaceable and considerate of each others feelings and happiness. The connection is obvious between the state of mind thus produced, and respect for others, and for those higher duties and obligations, which no laws can enforce. On the contrary, a filthy, squalid, noxious dwelling, in which none of the decencies of life are observed, contributes to make the inhabitants selfish, sensual, and regardless of the feelings of others; and the constant indulgence of such passions renders them reckless and brutal.

BENEVOLENT THOUGHTS.—The words which Walter Scott puts in the mouth of Jennie Deans, in her memorable address to the Queen, are as true as they are touching and beautiful: "When the hour of trouble comes—and seldom may it visit your ladyship—and when the hour of death comes, to high and low—lang and late may it be yours, O my leddy!—it is na what we have done for ourselves, but what we have done for others, that we think on most pleasantly."

THE STYLE FOR LITTLE BOYS.—The desirable style of suit for little boys—from three to four years—seems to be, at this time, the belt-plaited skirt, vest or jacket. Quite a rich looking little suit has a Scotch plaid skirt and velvet jacket with a Scotch scarf for the shoulder. Comfortable suits for older boys are of blue flannel made with trowsers and plaited waists, trimmed in black velvet. This style is quite in vogue, easily made and not expensive.

BENEFITS OF SUNSHINE.—Seclusion from sunshine is one of the misfortunes of our civilized life. The same cause which makes the potato vines white and sickly, when grown in the dark cellars, operates to produce the pale, sickly girls that are reared in our parlors. Expose either to the rays of the sun, and they begin to show color, health and strength.

PROFANITY never did any man the least good. No man is richer, or happier, or wiser for it. It commends no one to any society. It is disgusting to the refined, abominable to the good, insulting to those with whom we associate, degrading to the mind, unprofitable, needless and injurious to society.

Young Folks' Column.

A German Fable.

A raven was crossing a field and saw a cuckoo preparing a soft bed behind a shady bush. That seemed very odd to him, so he crept nearer and asked the cuckoo what he was making there.

"A bed, as you see," the cuckoo answered shortly.

"A bed? what for?" the raven kept on inquiring. "You are not going to lie on the ground? As far as I know you usually rest in a hollow tree."

"It is not for myself," replied the cuckoo "but for that poor sick hen, there, you see behind the bushes. See that poor creature he continued, weeping; 'she fills my soul with pity; she has not been well for a long time.'"

"Really, an odd kind of neighborly love. I could never in the least have expected that of you," the raven cried in an ecstasy, and the bright tears flowed down his raven cheeks at the thought of this noble deed.

"Yes," the cuckoo continued in a whining tone, "this good hen laid me early every day an egg. Upon that I have hitherto lived when I could get nothing else, and how miserable I should be if she should die! I must perish—yes, must starve—in these famine times."

"Alas, so! It is not precisely for the poor sick hen, but for the eggs, you make the nest," croaked the raven, as, quickly drying his tears, he flew away.

TRADES OF ANIMALS.—It has been well remarked by a clever author that bees are geometricians. The cells are so constructed as, with the least quantity of material, to have the largest sized spaces and the least possible interstices.

The mole is a meteorologist.

The bird called the niuc-killer is an arithmetician; also the crow, the turkey, and some other birds.

The torpedo, the ray, and the electric eel are electricians.

The nautilus is a navigator. He raises and lowers his sails, casts and weighs anchor, and performs nautical feats.

Whole tribes of birds are musicians.

The beaver is an architect, builder, and wood cutter. He cuts down trees, and erects houses and dams.

The marmot is a civil engineer. He does not only build houses, but constructs aqueducts and drains to keep them dry.

The ant is a soldier and maintains a regular standing army.

Wasps are paper manufacturers.

Caterpillars are silk spinners.

The squirrel is a ferryman. With a chip or a piece of bark for a boat, and his tail for a sail, he crosses a stream.

Dogs, wolves, jackals, and many others are hunters.

Black bears and herons are fishermen.

Ants are day laborers.

Monkeys are rope dancers.

No Grandma in the House.

"O, mamma! Uncle Ned has got an awful lonesome old house!"

"Why, Joo," said his mother, "I thought it was a very pleasant, cheerful house."

"But you was mistaken, mamma. There isn't any grandma to that house, and so when the mamma's out shopping there's nobody there to love little children. I think a house is awful that hasn't any grandma in it, don't you?"

"Yes, darling, I do," said his mother; "and we wouldn't give our grandma away for all the big house, and fine furniture, and lovely pictures of Uncle Ned, would we?"

"I guess not," cried the loving little fellow; "it's just like having two mammas to have a grandma."

A lady teacher in an Iowa school made a boy stand up and show how he kissed the big girls in the woodshed, in hopes that he would shed tears and promise to do so no more. All the boys are leaving the other schools now, and going to this lady teacher.

"MAR, why don't you speak?" asked little Jake. "Why don't you say suthin' funny?" "What can I say? Don't you see I'm busy frying doughnuts? Say something funny, indeed!" "Wal, yer might say 'Jake, won't yer have a cake? That 'ud be funny for you.'"

ANSWERS TO CHARADES IN LAST NUMBER.

Charade, No. 1—"Bar-gain."

Charade No. 2—"Shake-spear."

Charade No. 3—"Horse-man-ship."

Enigma—"Democritus."

DOMESTIC ECONOMY.

Kitchen Aids.

Mrs. M. E. Wager, talks as follows about the aids which every housewife should have to simply lighten her toils in the kitchen, which, when considered singly, appear insignificant; but which, in the aggregate, are so wearisome:—You are to make cakes or puddings, frostings or custards, and in beating and whipping your eggs you spend much time as well as strength. Here is a simple little affair—a wheel and a crank and some long loops of wires, which you can screw on the side of the shelf or table or hold over your bowl of eggs, by which you can beat your eggs to a perfect froth in one or two minutes, and with the utmost ease. The machine is called "The Egg Beater," and costs from seventy-five cents to a dollar.

You want to make toast for breakfast or tea, burn your face and your hands, are a long time doing it, and find it such a bother that toast does not come on the table often. You can get a long handled toasting fork for fifteen cents, but a better affair for from twenty-five cents to two dollars and a half, according to size. This is made of wire, like a pair of book covers, which opens. You lay in your slice of bread, rake out a bed of coals, hold it over them by its long handle and toast your bread on both sides, evenly and easily.

Here is a beef steak pounder for fifty cents. It is of cast iron, hatchet-like, with the bottom of the hammer checked with points, while the sharp edge of the hatchet will divide the meat as you like.

A housewife always has silks, yarn, worsteds or flees, which she knows will get in a tangle unless she winds it into a ball, or on a spool. A pair of chair backs are often brought into requisition, or a child's arms made tired, if a man is not around to be utilized. Here is a little pair of swifts, opening and shutting like an umbrella, so that you can adjust them to any circumference you like. There is a screw to fasten it on the side of your work table and, when done using it, it folds up in a small compass, and is as much of an improvement upon the old fashioned swifts, that have such a dreadfully prosaic look, as a stove is an improvement upon a fireplace for cooking purposes. This "convenience" costs a dollar and twenty-five cents.

There is a pudding to be boiled for dinner, and the bag in which it is to be cooked is mislaid, or, if used, perhaps rips or tears, or gets untied, or burns on the bottom, and you burn your fingers getting it out of the sack, as well as making a great muss when putting in the batter, or whatever is used; so that a boiled pudding is usually a dish seasoned with worry and trouble. Let us show you this pudding boiler. It is of planished tin, melon-shaped, only the bottom is flat and fits in like a cover. You can pour your ingredients in this dish, put on the cover, boil until done, take off the cover and set out your pudding on a platter, not only unburned but beautifully moulded. These are of various sizes, and cost from one to two dollars. Here is another style, a fluted, truncated, cone-shaped, with a tunnel rising through the center, insuring quicker boiling, and preventing rawness and heaviness in the middle, and is excellent for large puddings. This style of boiler ranges in price from a dollar and a quarter to two dollars and a half. You can have them in different designs, so that the pudding turns out with a mould of flowers, a sheaf of wheat, or ears of corn on the top. It is very nice, too, for moulding corn starch, or jellies, if you do not prefer the small separate moulds with beautiful designs, which vary in price from three to six dollars per dozen. It is one of the essentials of good cooking to have food look inviting. Anything that looks good and tastes good conveys a double enjoyment. It is like having your *vis a vis* at table, both handsome and agreeable.

Here is a saucepan for cooking milk, or rice, or mushes, which is so constructed as to prevent burning. It is simple, made of tin, and varies in price as in size, from seventy-five cents to three dollars.

In the summer time when farmers like something to drink more substantial than water, not the abominable stuff that comes from a bar-room, but a melange of ingredients, such as eggs, or milk, or jelly, or whatever may come under a temperate rendering of "nog," we have here a dish to make it in. It is of tin, tubular in shape, with the inside lined with sharp tin points. After putting in the ingredients and placing on the cover, a little vigorous shaking

amalgamates the mass beautifully. This "egg nog machine" costs thirty cents.

So much for this time. Any contrivances or inventions our readers enjoy, pertaining to the domestic kingdom, we are anxious to have them tell us about. Why do not women develop into inventors?

Filters and Filtering.

Water, wine, spirit, jelly, syrup, tinctures, and a great variety of other fluids, hot and cold, often contain substances which should be separated, in order to render the fluid clear and bright. As regards water filtering, it has become pretty general; but in domestic life there are fluids, such as wine, liquid jelly, syrup, etc., which are required to be made "clear" before they are put on the table. There are three kinds of filters—sponge for watery liquids, cotton for spirituous fluids, and wool for gelatinous fluids and oils.

In every well appointed kitchen, there are tin or porcelain funnels. For filtering watery fluids it is only necessary to insert, in the choke of the funnel, a V shaped piece of fine sponge. All such liquids, on being put into the funnel, will pass through the sponge, and become quite clear. When this effect ceases, the sponge must be removed, and well cleansed. Viscous fluids are best cleared by filtering through a cone of white blotting paper, shaped by folding a square piece of the paper from corner to corner, then folding the triangle into half its size, and opening the folds; it will fit any funnel, which will act as a support to the paper. Wines, etc., poured into this, will run through perfectly bright. In some cases where the wine is only a little thick from lees, cork, or other mechanically suspended substance, it can be made quite clear by filtering through a wad of white cotton put in the choke of the funnel; and when this answers, it is much quicker than the paper filter.

For jelly and oil, wool alone is the proper medium for filtering. The felted wool jelly bag is pretty well known as the best means of clearing calves' foot jelly, and it also answers for olive and other oil. These bags are, however, too expensive to be generally used; hence they are rarely seen in kitchens. A good substitute for the wool bag is a colander, on the inside of which a new flannel lining, should be fitted, made of double stuff. A wad of white knitting wool, put in the choke of a funnel, will do to filter any small portion of such fluids. Many a good glass of port wine has been wasted for the want of a penny paper filter.—*Am. Manufacturer.*

Mutton the Best Meat.

A great many tillers of the soil drag out miserable days, simply because they will persist in eating salt pork, hams and shoulders in spring and summer, when a dish of good mutton would give them new life and strength. We mean to repeat a thousand times, or at least till what we say has some effect upon our countrymen, that a pound of lean, tender, juicy mutton can be produced for half the cost of the same quantity of fat pork; that it is infinitely healthier food, especially in the summer season; and that those who eat it become more muscular, and can do more work with greater ease to themselves, than those who eat fat pork. We know nothing more delicious than smoked mutton hams of Southdown breed of sheep. Venison itself is not superior. By smoking a portion of the flesh of a sheep most families can dispose of the four quarters in an economical manner before any part of it would spoil.

TO KEEP TOMATOES FOR WINTER USE.—A correspondent sends the *Rural New Yorker* the following: As the tomato season is now here, I can contribute one way for keeping them for winter use that may be new to some of your readers. I ate them in February, sliced and seasoned with sugar and a little vinegar, that seemed every way as nice as tomatoes fresh picked from the vines. They were preserved in the following manner: Dissolve a teacup of salt in a gallon of water. Pick ripe tomatoes, but not over ripe, leaving little of the stem on. The tomatoes must be well covered with the brine, and they will keep till spring or over.

TO TEST EGGS.—The following comes from a housewife; of course in itself it is nothing new: Put the tip of your tongue to the broad end. This end is always warm, compared with the pointed end. If it feels cold, the egg is unmistakably bad.

If your potatoes are watery, put a piece of lime about as large as a hen's egg in the pot, and boil with them, and they will come out as mealy as you please. So says an exchange.

Domestic Receipts.

CELERY SOUP.—Six roots of celery, one large turnip, two ounces of onions, four ounces of bread crumbs, one ounce of butter, one dessert-spoonful of flour, and half a pint of cream. Strip off all the green part of the celery, using only the white; cut it in shreds, reserving the inside of three of the roots to be added afterward; slice the turnip and onion, and put them with the celery into a pan; add two quarts of water, the bread crumbs, and a little salt; let all boil till the vegetables are perfectly soft; rub through a sieve; return it to the pan; add the celery (previously boiled till quite soft), the butter and flour well mixed; stir it, seasoning with a little mace, and after boiling a quarter of an hour, stir in the cream, but do not allow it to boil afterward.

A RELISH FOR BREAKFAST OR LUNCH.—Take a quarter of a pound of cheese, good, fresh; cut it up in thin slices and put in a spider, turning over it a large cupful of sweet milk; add a quarter of a teaspoonful of dry mustard, a dash of pepper, a little salt and a piece of butter as large as a butter-nut; stir the mixture all the time. Have at hand three Boston crackers finely powdered or rolled, and sprinkle them in gradually; as soon as they are stirred in, turn out the contents into a warm dish and serve. It is very delicious.

BLACKBERRY BRANDY.—To 2 quarts of blackberry juice, put 1½ lbs. of white sugar, ½ oz. of cinnamon, ½ an oz. of nutmegs, ¼ oz. of cloves, 1 oz. allspice; let it simmer but for a few moments, and, when cool, add one pint of brandy.

REMEDY FOR CHAPPED HANDS.—It is said that honey is an excellent remedy for chapped hands. When washing the hands, or rather having washed them, while they are still wet, rub on them a little honey, and then dry them, taking care to leave the honey on, and not rinse it off before drying the hands. If the hands are sore and chapped, on the first and second applications the honey will cause pain for about five minutes, but if used every time the hands are washed, the hands never chap. It is also a cure for irritation on the face caused by wind and cold weather.

CLEANING LACE CURTAINS.—Wash, starch and stretch; then pin them to your carpet, first taking care to have the carpet swept very clean.

To remove egg stains from silver, rub with table salt.

RISEN CORN BREAD.—May be made with yeast and a little shortening. By some esteemed very good bread.

Mechanical Hints.

A WATER-PROOF CEMENT OR VARNISH.—The Chinese make many kinds of water-proof varnishes, one of which is compounded as follows:—To three parts of fresh, beaten defibrinated blood and four parts of slacked lime, add a little alum and you have a thin, sticking mass which is immediately ready for use. If applied to any ordinary wooden box or even to a common straw basket two or three times, the box or basket will be perfectly water and oil tight. A pasteboard box served with this preparation assumes the consistency of board and becomes water and oil tight. If this preparation is impervious to kerosene, its value would be very great. An experiment in that direction by coating the inside of casks might lead to important results.

TESTING LUBRICATING OILS.—Some ingenious inventor has contrived an apparatus to test the relative merit of lubricating oils. The point is decided by an indicator that registers the different degrees of heat produced by the action of the machinery during the test, the heat revealing the relative amount of friction, decides the merit of the lubricator used. The invention is to be patented.

It frequently happens that painters splash plate or other glass windows when they are painting the sills. Soda melted in very hot water and applied with a soft flannel will entirely remove the paint.

VERY HARD CEMENT.—Some repairs being required to the stone steps leading to a garden, a French mason used Portland cement mixed with finely divided cast and wrought-iron filings, and broken up borings, instead of with sand. The result has been that the mass has become so hard as not to admit of being broken either with hammer or pickaxe.

WIRE ROPE is more than twice the strength of hemp rope of the same circumference. Splicing a rope is supposed to weaken it one-eighth.

Life Thoughts.

SLANDER is the revenge of a coward and dissimulation his defense.

A BAD marriage is like an electric machine; it makes you dance, but you can't let go.

THE superior man has a dignified ease without pride. The mean man has a pride without dignity.

If a proud man makes me keep my distance, the comfort is that he keeps his at the same time.

WHEN a man has no design but to speak plain truth, he may say a great deal in a very narrow compass.

A MAN who has repeatedly tried them, says that all the short cuts to fortune are horribly overcrowded.

THE first ingredient in conversation is truth, the next, good sense, the third, good humor, and the fourth, wit.

It is one of the worst errors to suppose that there is any other path of safety except that of duty.

LEARNING is wealth to the poor, an honor to the rich, an aid to the young, and a support and comfort to the aged.

"He who laughs can commit no deadly sin," said the wise and sweet-hearted woman who was the mother of Goethe!

GRIEF knits two hearts in closer bonds than happiness ever can; and common suffering is a far stronger link than common joy.

THE nerve which never relaxes, the eye which never blanches, the thought which never wanders; these are the masters of victory.

ONE ought, every day, says Goethe, at least to hear a little song, read a good poem, see a fine picture, and if it be possible, to speak a few reasonable words.

If a man gets into any kind of an enterprise and is successful, he will say he was smart, but his neighbors will say he was lucky; but if he does not succeed well, he will say he was unfortunate, but his neighbors will say he was a fool.

Want of Decision.

A great deal of talent is lost to the world for the want of a little courage. Every day sends to their graves a number of obscure men, who have only remained in obscurity because their timidity has prevented them from making a first effort, and who, if they only had been induced to begin, would, in all probability, have gone great lengths in the career of fame. The fact is, that, in doing, we must not stand shivering on the bank, thinking of the cold and the danger, but jump in and scramble through as well as we can. It will not do to be perpetually calculating risks and adjusting chances; it did very well before the flood, when a man could consult his friends upon an intended publication for a hundred and fifty years, and live to see its success for six or seven centuries afterward; but at present a man doubts, and waits on his brothers, and his uncles, and his particular friends, till one day he finds that he is sixty-five years of age, that he has lost so much time in consulting first cousins and particular friends that he has no time to follow their advice. There is so little time for over-squeamishness at present that the opportunity slips away. The very period of life at which man chooses to venture, if ever, is so confined, that it is no bad rule to preach up the necessity, in such instances, of a little violence done to the feelings, and efforts made in defiance of strict and sober calculation.—*Sidney Smith.*

A BEAUTIFUL THOUGHT.—When engineers would bridge as stream they often carry over at first but a single thread. With that they stretch a wire across. Then strand is added to strand, until a foundation is laid for planks, and now the bold engineer finds safe footway and walks from side to side. So God takes from us some golden-threaded pleasure, and stretches it hence into Heaven. Then he takes a child, and then a friend. Thus he bridges death, and teaches the thoughts of the most timid to find their way hither and thither between the two spheres.

LABOR.—It is to labor, and labor only, that man owes everything possessed of exchangeable value. Labor is the talisman that has raised him from the condition of the savage; that has changed the desert and the forest into cultivated fields; that has covered the earth with cities, and ocean with ships; that has given us plenty, comfort and elegance, instead of want, misery, and barbarism.

Meteorological Record

For the month ending Nov. 30, 1871, by Thos. Tennant, chronometer and watchmaker, Battery street, opposite the Custom House:

| BAROMETER. | |
|--|---------------|
| Mean height at 9 A. M. | 30.17 inches. |
| " at 12 M. | 30.15 " |
| " at 3 P. M. | 30.14 " |
| " at 6 P. M. | 30.13 " |
| Greatest height on the 24th at 9 A. M. | 30.45 " |
| Least height on the 12th at 6 P. M. | 29.76 " |

| THERMOMETER. | |
|--|-------------|
| In the shade and free from reflected heat: | |
| Mean height at 9 A. M. | 57 degrees. |
| " at 12 M. | 61 " |
| " at 3 P. M. | 62 " |
| " at 6 P. M. | 57 " |
| Greatest height on the 2d at 3 P. M. | 70 " |
| Least height on the 26th and 30th at 9 A. M. | 51 " |

| SELF-REGISTERING THERMOMETER. | |
|--|-------------|
| Mean height during the night | 43 degrees. |
| Greatest height on the morning of the 23d | 57 " |
| Least height on the morning of the 29th/30th | 35 " |

| RAIN GAUGE. | |
|--|--|
| 3d, 0.19 in.; 9th, 0.03 in.; 13th, 0.02 in.; 14th, 0.18 in.; 15th, 0.22 in.; 24th, 0.35 in.; 26th, 1.67 in.; 27th, 0.13 in.; 28th, 0.93 inches. Total for the month, 3.72 in. Total for the season, 3.86 inches. | |

| WINDS. | |
|--|--|
| North, NE and NW on 17 days; East one day; West on 5 days; South and SW on 7 days. | |

| WEATHER. | |
|---|--|
| Clear on 16 days; variable on 5 days; cloudy on 9 days. | |

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, THURS., A. M., DEC. 7.

FLOUR—Very little demand for export; local and interior demand fair at unchanged rates. Sales reported embrace 4,000 bbls. Cal. extra, 3,000 do. Cal. superfine, and 3,000 Oregon extra. We quote prices as follows:

Superfine, \$6.50@6.75; extra, in sacks, of 196 lbs. \$7.50. Standard Oregon brands, extra, may be quoted at \$7.50.

WHEAT—In limited demand chiefly confined to millers. Sales aggregate 20,000 sacks fair to choice at \$2.40@2.60 per 100 lbs. Quotable at close at \$2.40@2.60 per 100 lbs.

The latest Liverpool market quotation comes through at 12s. 9d. per cental.

BARLEY—Has been very quiet during the past week, and the market is much depressed. Sales embrace 10,000 sacks ordinary Coast to choice Bay, at \$1.85@2.07. Quotable at close at \$1.85@2.02.

OATS—Market has been inactive during the week under review, but prices are without special change. Sales 4,000 sacks ordinary coast to choice bay, at \$1.85@2.00. Quotable at close at \$1.80 and 1.95 per 100 lbs.

CORN—Is quotable at 2.05@2.15 for yellow and white respectively per 100 lbs.

CORNMEAL—Is quotable at \$2.50@3.00 from the mill.

BUCKWHEAT—Dull and nominal at \$2.50.

RYE—According to quality is quotable at \$2.37½@2.40.

STRAW—Quotable at \$6.50@7.50 by the cargo.

BRAN—Selling at \$30 per ton from the mill.

MIDDLINGS—For feed, are selling at \$12.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Receipts have been light, and prices at close are \$18@24 for fair to choice per ton.

HONEY—We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

POTATOES—In good demand and receipts free, Bodega, Tomales and Petaluma, 70c@80c; Humboldt 90c@95c, and Pigeon Point, 90c@1.05.

SWEET POTATOES—Are selling at \$2.25@2.50 per 100 lbs.

HOPS—We quote new crop at 50@60c.

HIDES—During past week 1,350 Cal. dry sold at 17@18 and 1,330 salted at 9@9½c.

WOOL—Sales for the week include 250,000 lbs. Fall clip nearly all in and market remains quiet. The "Moses Taylor" brought 62,000 lbs. from Australia, of which 51,500 lbs. are destined for Boston. Prices for good to choice shipping grades are 22@26c. Burry and dirty as usual neglected.

TALLOW—Market dull at 8½@9c per lb.

SEEDS—Flax 3c.; Canary, 7@7½c.; Alfalfa, 15@16c.; Mustard—California Brown, 3@6c.; Cal. White 3¼@4½c. per lb.

PROVISIONS—California Bacon 14 and 15c; Oregon, 15½@16c; Eastern do, 13½@14c; for clear and 14@15 for sugar-cured Breakfast; Cal. Hams 14@15; Oregon, 15½@16c; California Sugar-cured Hams, 16@18c; Oregon do, 16@18c; Eastern do, 19@21c; California Smoked Beef, 13½@14c.

BEANS—Market continues firm. The following are jobbing rates: Pea \$3.00; small White \$2.75@3.25; small Butter \$2.50@2.75; Pink \$2.12½@2.50; Bayo, \$3.50@3.75; Navy \$3.50 per 100 lbs.

ONIONS—We quote the range from fair to choice at 50@1.00 per 100 lbs.

NUTS—California Almonds, 8@10c. for hard and 18@25 for soft shell; Peanuts, 5@7c; Pecan, 25c per lb Walnuts, new, 14c; Hickory, 12c; Brazil, 16c lb. Chili Walnuts 10c.

COFFEE—Costa Rica 21c; Guatemala 20c; Java 25½c; Manila, 19½@20; Rio 19½@20.

GROUND COFFEE in cases 30c.

SPICES—Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Whole

Pepper 19c. Ground Spices—Allspice \$1.00 per doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 per doz.; Mace \$1.50 per lb.; Ginger 15c per lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c per lb. Do 2d quality 7@8c per lb. Do 3d do 5@6c per lb.

VEAL—Quotable at 8@10c.

MUTTON—6@7c per lb.

LAMB—Quotable at 8c per lb.

PORK—Undressed grain-fed is quotable at 5½@6c, dressed, grain-fed, 8@8½c.

POULTRY—Live Turkeys, 18c per lb; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$5.00@6.00. Ducks, tame, \$7.00@8.00 per doz.; Geese, \$12@15 per dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87½; English Snipe, \$1.75@2.00; Mallard Ducks, \$3.00@3.50; Small Ducks, \$1.50; Wild Geese per doz. \$1.50@3.00; Venison per lb., 6@8c; Terrapin per doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@50c; California firkin butter, 27½@35c. Pickled 32½@37½. Eastern firkin 20@35c.

CHEESE—California 14@18c, Eastern, 16@17c. Eggs—California fresh, 48@50c. per doz.

LARD—California 13@14 Oregon in bbls. and kegs 12½@13c.; do in cases 14½@15.

FRUIT.

| | |
|----------------------------------|-----------------|
| Tabatian and Mexican Oranges | \$30 00 @ 40 00 |
| Limes, per 1,000 | 5 00 @ 10 00 |
| Pine Apples, per doz. | — @ — |
| Australian Lemons, per 100 | 4 00 @ — |
| Sicily do per box | 10 00 @ 12 00 |
| Bananas, per bunch | 2 50 @ 3 00 |
| Cocoanuts, per 100 | 7 00 @ 8 00 |
| Apples, eating, per box | 75 @ 1 50 |
| do cooking do. | 60 @ 1 00 |
| Pears, cooking, per box | 50 @ 1 25 |
| do eating do. | 1 00 @ 1 50 |
| Peaches, per box | — @ — |
| Chokee Mountain do, per lb. | — @ — |
| Quinces, per box | 1 25 @ 1 50 |
| Strawberries, per lb. | 20 @ 25 |
| Plums, per box | — @ — |
| Prunes, per box | — @ — |
| Figs, per lb. | — @ 10 |
| Grapes, Sweetwater, per lb. | — @ — |
| Mission do, per lb. | 3 @ 5 |
| Rose of Peru do, per lb. | 5 @ 7 |
| Black Hamburg do, per lb. | 5 @ 7 |
| Muscad of Alexandria do, per lb. | 5 @ 10 |
| Flame Tokay do, per lb. | 5 @ 8 |
| Black Morocco per lb. | 8 @ 12½ |
| Isabella do, per lb. | — @ — |
| Eastern Cranberries per bbl. | 16 00 @ 17 00 |
| Watermelons, each | — @ — |
| Cantaloupes, each | — @ — |

DRIED FRUIT.

| | |
|---------------------|---------|
| Apples, per lb. | 6 @ 7 |
| Pears per lb. | 8 @ 10 |
| Peaches, per lb. | 8 @ 9 |
| Apricots, per lb. | 8 @ 8½ |
| Plums, per lb. | 18 @ 20 |
| Pitted do, per lb. | 10 @ 15 |
| Raisins per lb. | 10 @ 15 |
| Black Figs, per lb. | 8 @ 12½ |
| White do. | 15 @ 20 |

VEGETABLES.

| | |
|---------------------------|--------------|
| Cabbage, per lb. | 1½ @ 2 |
| Garlic, per lb. | 1 @ — |
| String Beans, per lb. | — @ — |
| Summer Squash, lb 100 | — @ — |
| Tomatoes, per box | 1 50 @ 2 00 |
| Cucumbers, per box | — @ — |
| Green Corn, per doz. | — @ — |
| Marrowfat Squash, per ton | 9 00 @ 10 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Continued inquiry for ploughs, as well as for other seasonal articles in this department.

BUILDING AND FENCING MATERIALS—Local and export trade have been fair during the period under review. Dealers pay for cargoes of Oregon as follows: Rough \$13; do. dressed \$23; Spruce \$16.50. Redwood Lumber Association's prices are as follows:

| | |
|---------------------------------------|--------------------|
| Merchantable worked rustic | \$31 00 to \$32 50 |
| Refuse do | 20 00 to 21 50 |
| Merchantable surfaced and rough clear | 28 00 to 30 00 |
| Refuse surfaced and rough | 18 00 to 20 00 |
| Merchantable beaded flooring | 28 00 to 30 00 |
| Refuse do | 18 00 to 20 00 |
| Merchantable rough | 15 00 to 16 00 |
| Refuse do | 11 00 to 12 00 |
| Fancy Pickets | 22 50 to 25 00 |
| Rough Pickets | 15 00 to 16 00 |

The mill price for cargo lots from Northern Ports is \$8.50@10 for timber, and \$17.50@20 for flooring.

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, December 7.

SOLE LEATHER—Eastern shipments still keep the market firm and the demand good.

City Tanned Leather, per lb. 26@28

Santa Cruz Leather, per lb. 26@28

Country Leather, per lb. 25@28

French stock comes in more freely, and prices are easier in leading skins. The cheaper grades still continue firm. California kip and calf skins are still scarce and high.

Jodot, 8 Kil, per doz. 50 00@ 55 00

Jodot, 11 to 15 Kil, per doz. 60 00@ 80 00

Lemoine, 16 to 19 Kil, per doz. 95 00@ 100 00

Levin, 12 and 13 Kil, per doz. 68 00@ 70 00

Cornellian, 16 Kil, per doz. 65 00@ 70 00

Cornellian, 12 to 14 Kil, per doz. 54 00@ 60 00

Ogerau Calif, per doz. 65 00

Simon, 18 Kil, per doz. 65 00

Simon, 20 Kil, per doz. 65 00

Simon, 24 Kil, per doz. 35 00@ 40 00

Robert Calif, 7 and 8 Kil, per doz. 1 10 @ 1 30

French Kips, per lb. 65 00 to 80 00

California Kip, all colors, per doz. 1 15 @ 1 25

Eastern Calf for Backs, per lb. 8 00@ 13 00

Sheep Roams for Topping, all colors, per doz. 5 50@ 10 50

Sheep Roams for Linings, per doz. 1 75@ 5 50

California Russet Sheep Linings, per doz. 5 25

Best Jodot Calf Boot Legs, per pair. 4 50@ 5 00

Good French Calf Boot Legs, per pair. 4 00

French Calf Boot Legs, per pair. 30 @ 37½

Harness Leather, per lb. 48 00@ 72 00

Fair Bridle Leather, per lb. 30 00@ 50 00

Skirting Leather, per lb. 17 @ 21

Well Leather, per foot. 18 @ 20

Buff Leather, per foot. 18 @ 20

Wax Side Leather, per foot. 18 @ 20

TRAVIS & WAGNER, 41 First St.—Mill Stones, Bolting Cloths and general Mill Furnishing, Portable Mills of all sizes from 16 to 36 in. None superior man'd for farmers & ranchmen.

San Francisco Retail Market Rates.

THURSDAY NOON, December 7, 1871.

PRODUCE, ETC.

Flour, ex. per bbl. 8 00 @ 8 25

Superfine, do 6 00 @ 6 25

Corn Meal, 100 lb. 3 00 @ 3 50

Wheat, per 100 lbs. 2 40 @ 2 60

Oats, per 100 lbs. 1 75 @ 2 00

Barley, cwt. 1 85 @ 2 20

Beans, cwt. 3 50 @ 4 50

Hay, per ton 24 00 @ 25 00

FRUITS, VEGETABLES, ETC.

Pine Apples, per 5 00 @ 9 00

Bananas, per 3 00 @ 5 00

Cal. Walnuts, per 2 00 @ 3 00

Cranberries, per 75 @ 1 00

Cranberries, O. 75 @ 1 00

Pears, table, per 75 @ 1 25

Plums, Cherry, 6 @ 8

Strawberries, per 5 @ 8

Oranges, per 100 3 00 @ 4 00

Lemons, per 100 1 00 @ 1 50

Figs, dried, per 6 @ 10

Asparagus, wh. 6 @ 10

Artichokes, doz. 50 @ 75

Brussels sprouts, 50 @ 75

Beets, per doz. 20 @ 25

Potatoes, sweet, 4 @ 5

Broccoli, per doz. 1 00 @ 1 50

Cauliflower, per 1 00 @ 1 50

Cabbage, per doz. 75 @ 1 00

Carrots, per doz. 10 @ 25

Celery, per doz. 25 @ 30

Cress, per doz. 20 @ 25

Dried Herbs, b h 25 @ 50

POULTRY, GAME, FISH, MEATS, ETC.

Chickens, piece 75 @ 1 00

Turkeys, per 20 @ 25

Ducks, wild, per 50 @ 100

Tame, do. 1 50 @ 1 75

Teal, per doz. 50 @ 75

Geese, wild, pair 75 @ 1 00

Tame, per pair 2 50 @ 3 00

From Chicago, 2 00 @ 2 50

Hens, each 75 @ 1 00

Snipe, per doz. 1 50 @ 2 00

Wild, do. 2 50 @ 3 00

Rock Cod, per lb. 10 @ 12

Perch, water, 8 @ 10

Fresh water, 12 @ 15

Lake Big Trout, 30 @ 37½

Hares, each 40 @ 50

Rabbits, tame 50 @ 100

Wild, do. 15 @ 20

Squirrel, per pair 25 @ 30

Beef, tend, per lb. 20 @ 25

Sirloin and rib 18 @ 20

Cornd, per lb. 10 @ 12

Smoked, per lb. 15 @ 18

Pork, rib, each lb. 12½ @ 15

Chops, do. 12 @ 15

Steak, per lb. 12 @ 15

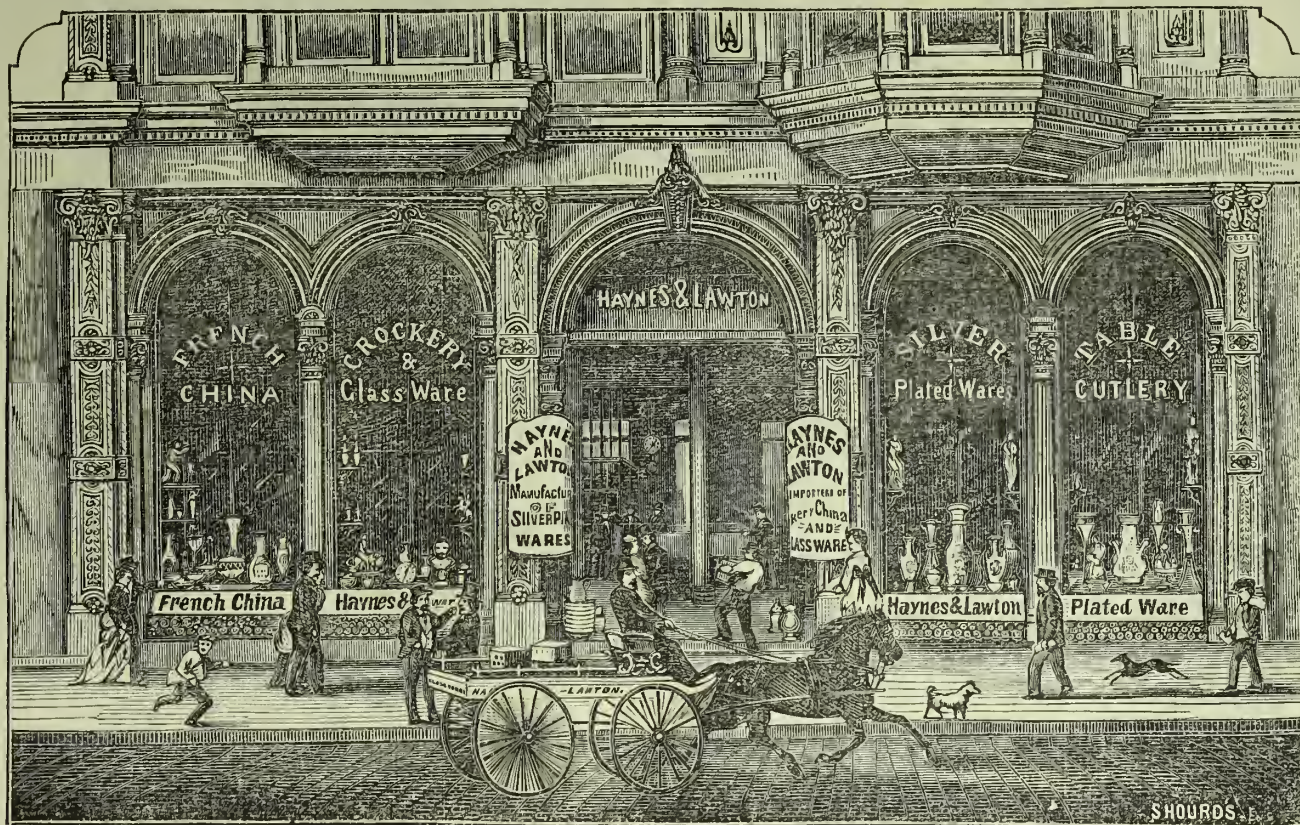
Terrapin, per doz. 4 00 @ 5 00

Mackerel, p. ea. 10 @ 12

HAYNES & LAWTON,

MARKET STREET, UNDER THE GRAND HOTEL.

HAVING
the
LARGEST STOCK
of
Crockery,
China
and
Glassware,
to be
FOUND
on
the
PACIFIC
Coast,



ENABLES
them
to
OFFER
SUPERIOR
INDUCEMENTS
to
BUYERS,
at
Wholesale
or
Retail.

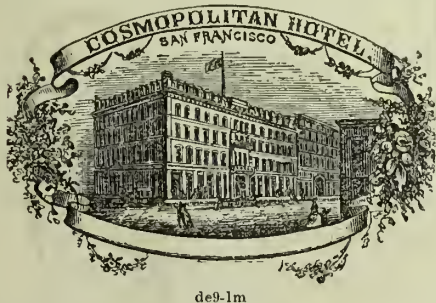
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Garden, Field, Fruit, Flower
AND TREE SEEDS,
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Pure Alfalfa, Mesquite Grass, Etc

DUTCH BULBOUS ROOTS.

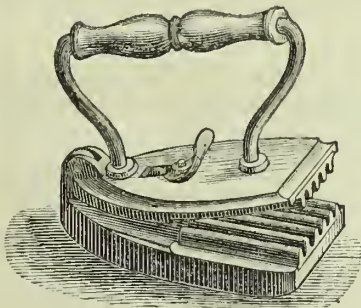
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23v2-3m HAARLEM.

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By the 100, 1,000 or 100,000, both
Wholesale and Retail, at the
Lowest Market Rates, at the CAPITAL NURSE-
RIES, SACRAMENTO, Cal.Send for Catalogue, Price List and printed directions,
ROBERT WILLIAMSON, Proprietor.Office and Tree Depot at U street, between Fifteenth
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A POLISHING AND FLUTING IRON that should be
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The fluting of the Iron is made of finely polished brass,
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Containing seventy-two pages and Two Beautiful
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for the cultivation of nearly a THOUSAND VARIETIES of
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JAMES M. HAVEN.

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SAN FRANCISCO.A Desirable Hiss.—There is the hiss of ridicule,
the hiss of scorn, the hiss of snakes in the grass; but
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Tarrant's Effervescent Seltzer Aperient

In the sparkling goblet, giving assurance to the invalid
that his thirst will be deliciously assuaged; that his
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feverish, his body will be cooled by healthful evap-
oration; that if he is constipated, the difficulty will pass
away without a pang; and that if the condition of his
general health is impaired, it will be speedily restored.
Of course he will take care to procure none but
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THE MOST ASTONISHING
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IT WORKS TO A CHARM.

WITH ONE HORSE POWER.
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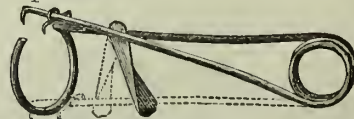
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It took Six Premiums in the East in 1871, and a Diplo-
ma at the State Fair, Sacramento, Cal.
Illustrated and described in the PACIFIC RURAL PRESS,
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and not likely to get out of order, and very durable.

It is Very Efficient

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THE CHEAPEST AND BEST YET INVENTED. Price
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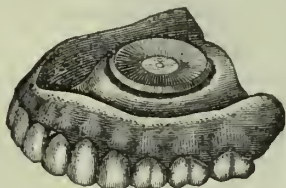
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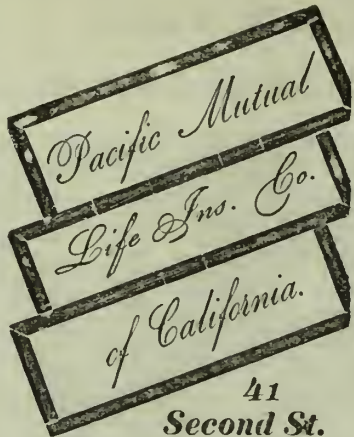
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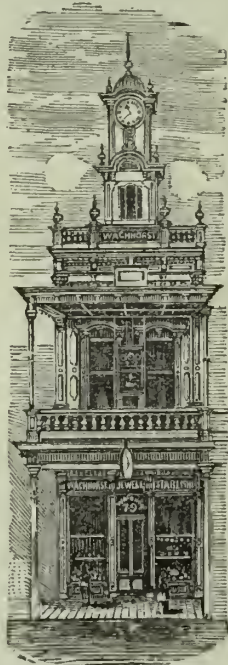
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Verticle and Straight Mould-Board Plow,
Which is Cheaper of Construction, opens its furrow
Wider and Cleaner, and with 20 per cent.
Less Draft than ordinary Plows
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These Plows are being manufactured TO ORDER by
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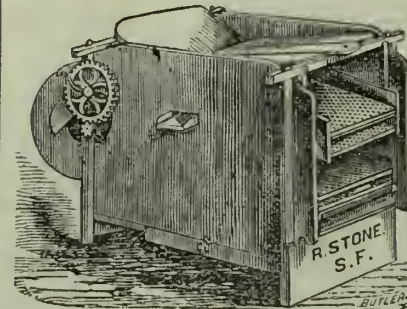
And all kinds of Office and Cabinet Work to order.
Office, No. 607 Clay street, near Montgomery, San
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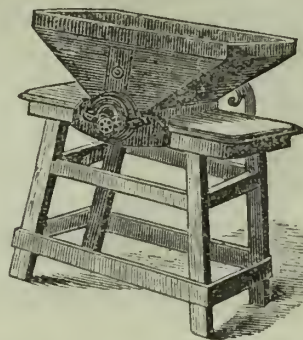
The LITTLE GIANT shells four bushels of corn per hour, and costs only \$1.50. If you ever buy one, and it fails to give perfect satisfaction, you can get your money back by returning the Sheller. We would recommend lazy men and women not to buy it, for it is an enemy to both. Local or traveling agents will be supplied with Shellers at low prices, and given sole agencies to sell in their town or county.

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Is one of the greatest improvements of the age for cleaning and separating Grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far exceeds anything that has been invented for the separation of Grain. It has been thoroughly tested on all the different kinds of mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.
For further information apply to
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THE CELEBRATED
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For Farm use and Custom work. The only Practical Farm Feed Mill ever invented. Can be used with from one to eight-horse power, and grinds from 250 lbs. to one ton of barley per hour. Price of Mills from \$75 to \$100, according to size. Adapted to Wind, Water, Steam, or Horse Power. The grinding surface is adjustable, and can be replaced in fifteen minutes at an expense of one dollar to one dollar and a quarter. Over 3,000 now in use. Every Mill warranted to give satisfaction. For sale by all leading agricultural firms on the coast. For further particulars send for circular.

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"HOME SHUTTLE" SEWING MACHINE,
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This machine being as good as the best, we have no hesitation in recommending it to our friends as a superior machine for family use. We take pleasure in its exhibition, and invite all to call and examine it before purchasing elsewhere.

It has a straight needle and makes a Lock Stitch. Send for a circular.
Agents wanted in every county. Each machine warranted for five years.

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WM. G. BADGER, Sole Agent for this Coast.

Second-hand Pianos taken in Exchange for New.

Also, Sole Agent for Geo. Woods & Co.'s Parlor and Vestry Organs, the Finest in the World.

Warerooms, No. 7 Sansome street, S. F. de2-1m

Alderney Bull for Sale

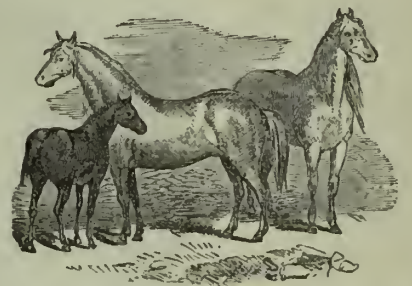
by W. A. Z. Edwards, three miles north of San Jose, on the Alviso road, Santa Clara county, Cal. 15v2-3m

FULL BLOOD PERCHERONS.

THE WHITE PRINCE!

The Percheron or Norman Horse, WHITE PRINCE, was imported into Ohio from France in July, 1870, accompanied by

A FULL BLOODED MARE.



White Prince was five years old last spring, and possesses the square, compact, solid form, with the good action of the Percheron race.

The Mare was bred in Ohio, from Imported Percheron Stock, and has been

Awarded Three Premiums

at the State Fair in Ohio (that is as often as she could compete), as the Best Mare in the State.

Louisa, at four months old, weighed 640 pounds; girths, 5 feet; weight is not a matter of great interest; but the square, compact, nice form which she presents, is a matter to be especially noted.

I also at the same time (December last) imported

TWO THREE-QUARTER BLOOD MARES,

one of which has a promising horse colt.

From the above it will be seen that I am able to raise Full Bloods and High Grades.

For any further information, address

W. C. MYER,

11v2-1am6m

Ashland, Oregon.

THE GREAT
RETAIL DRUG HOUSE
OF THE PACIFIC COAST!

JAMES G. STEELE & CO.,

Chemists and Apothecaries.

Import and sell directly from Eastern and European Markets.

NO. 521 MONTGOMERY STREET,

San Francisco.

Manufacturers and Sole Proprietors of

STEELE'S GLYCERINE LOTION

—AND—

GRINDELLA LOTION,

For the Cure of Poison Oak.

21v2-3m

DEALERS AND CONSUMERS

Are hereby notified that

THE STANDARD SOAP COMPANY

Continue to manufacture the following Standard Preparations:

Deterative, Prize Medal and Laundry Soaps;

Kane's Condensed Soaps;

Thomas' Cool Water Bleaching Soaps;

Standard and Eureka Washing Powders;

Madame Balnear's Washing Fluid and Liquid Bluing.

Adamantine Candles, and a general assortment of Family, Laundry, Fancy and Toilet Soaps.

Manufactory, 204 and 206 Sacramento street, San Francisco, 21v2-3m

CO-OPERATIVE MARBLE WORKS.

JOHN DANIEL & CO.,

Manufacturers of and Dealers in

Monuments, Headstones, Tombs,

MANTEL PIECES, ETC.,

421 Pine street, between Montgomery and

Kearny, SAN FRANCISCO.

21v2-1y

FINE LIVERY.

—THE—

Finest and Most Complete Livery Stable, together with the Best Turnouts in the State, are at WATSONVILLE, Cal. BILLINGS & ALEXANDER, Proprietors.

P. S.—Their new Hotel will be in full blast within fifteen days from this date. oc21-3m

HILL'S PATENT
EUREKA GANG PLOW,

The undersigned, Manufacturers of "HILL'S PATENT EUREKA GANG PLOWS," take this method of calling the attention of agriculturists throughout the Pacific States and Territories to the merits of the above named Plows, and offer the following reasons why they are entitled to preference over any other Plow in use.

They are made of the best material, and every Plow warranted.

They are of light draught, easily adapted to any depth, and are very easily handled.

They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!

These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,

which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by

HILL & KNAUGH,

And also by most leading Agricultural Dealers in the State. All others are invited to apply at once for Circulars, prices, etc. 16v23-tf

MATTESON & WILLIAMSON'S



Took the Premium over all at the great Plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the Best and Most Desirable Gang Plow in the world. Send for circular to

MATTESON & WILLIAMSON,

Stockton, Cal.

Holbrook's Patent Swivel Plow,

For Level Land and Side Hill.



8 Sizes. WON THE HIGHEST PRIZE at N.Y. State Trial, 1870, for Plowing Sod & Stubble

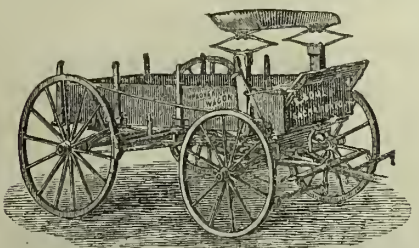
They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

Manufactured and sold by

F. F. HOLBROOK & CO.,
Boston, Massachusetts

19v1-7½m



FIRST PREMIUM AWARDED at the State Fair of 1870; also First Premium at Mechanics' Fair, San Francisco, 1871; and Silver Medal and First Premium for best Farm Wagon, and First Premium for the best improved Thimble Skein at State Fair, 1871. Also State Fair GOLD MEDAL for 1871.

E. SOULE,

Corner Tenth and I streets,

ap22-3m

SACRAMENTO, CAL.

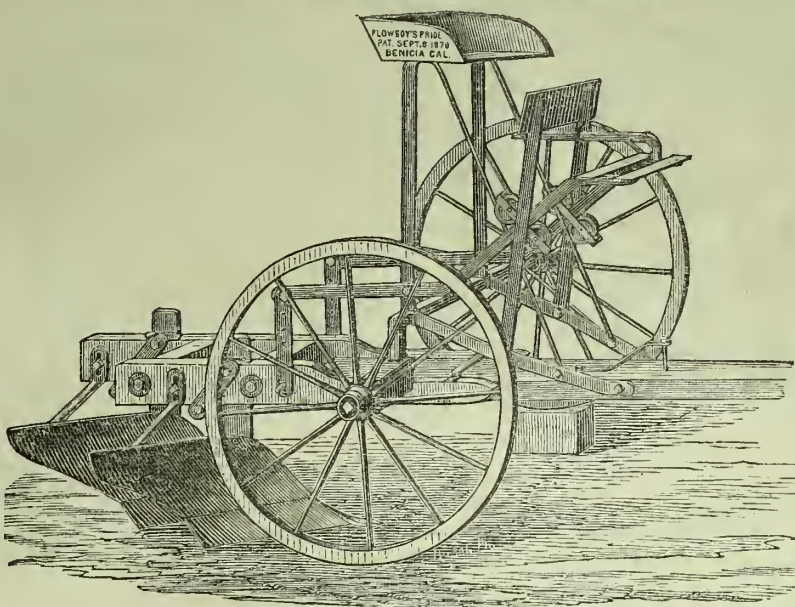
JACKSON MICHIGAN WAGONS.



The large sale of the above WAGONS has induced a number of persons to try and sell other Eastern-made Wagons, none of which have any proof that they will stand in this dry climate. JACKSON WAGONS have the highest certificates from use for ten to fourteen years, consequently the buyer runs no risk in purchasing the Jackson Wagons. All sizes for sale low by

J. D. ARTHUR & SON, San Francisco,
N. B.—Warranted for three years. 21v2-3m

THE PLOW BOY'S PRIDE.



Light, Strong and Durable—Cheap, Easily Handled and Runs Easy.

PATENTED SEPTEMBER 6, 1870.

Just the Thing for Farmers. The Plow Boy's Pride has been Thoroughly Tested,

in all kinds of soil, and on level, hilly and in tule lands, and in each instance has been pronounced a success

One of these Plows was run last season by a boy 14 years of age.

Examine it carefully and compare it with other plows. It will stand the test. Reference is made to those who have used these Plows, among whom are the following: D. N. HASTINGS, Benicia; P. COCHRAN, Benicia; A. P. RYERSON, Solano county; FOREMAN & ROBERTS, Solano county; MAJORS & DORMAN, Contra Costa county. Manufactured and sold by

JAMES H. ANDREWS, Patentee,

BENICIA, CAL.,

who also manufactures single Plows of all sizes, for free or adobe soils.

Circulars sent Free by Mail.

oc28-1am3m

BAKER & HAMILTON,

Sacramento and San Francisco,

—IMPORTERS OF—



HARDWARE,

Farming Implements,

Machines, Etc., Etc.

Gang Plows,

Single Steel Plows,

Iron Plows,

Harrows,

Cultivators,

Seed Sowers,

Grain Drills,

Etc. Etc.

18v2-3m

TREES.

AND PLANTS FOR SALE AT THE
LIBERTY NURSERIES,

Petaluma, Cal.

The stock I offer for sale this season is as varied and complete as can be found at any Nursery on the Pacific Coast. It consists of

Apples, Pears, Plums, Peaches, Apricots, Nectarines, Figs, Quinces, Cherries, Oranges, Pomegranates, Mulberries, Grapes, Currants, Gooseberries, Blackberries, Raspberries, Strawberries, etc.

Almonds, English Walnuts, California and Eastern Black Walnuts, Butternuts, American, Japan and Spanish Chestnuts.

Locusts, Maples, Elms, Poplars and Willows.

Evergreen Trees and Shrubs in great variety.

Peculiar Flowering Shrubs in variety, including a choice collection of Roses.

Also a choice collection of Bedding and Conservatory Plants, selected from the best new varieties (importation of 1871).

For complete list send for Descriptive Catalogue.

The above stock of Trees and Plants will be sold

At the Lowest Market Rates

of the reliable Nurserymen, and guaranteed to be true to name and label.

All orders from unknown persons must be accompanied with the Cash.

TREES packed in the best manner and delivered to Railroad or Boats in Petaluma for shipment to all parts.

Address

W. H. PEPPER,

21v2-3m

Petaluma, Cal.

SEED WHEAT.

THE CELEBRATED EXCELSIOR SEED WHEAT CLUB CHILE, AUSTRALIA & SONORA WHEAT, FOR SEED.

For sale in lots to suit by McNEAR & BRO., 16v2-3m 302 Davis street, San Francisco

J. ROCK'S NURSERIES,

SAN JOSE.

Fruit and Ornamental Trees.

The attention of every Planter, Nurseryman and Dealer is called to our large and superior stock of

Fruit and Ornamental Trees,

Grape Vines and Small Fruits,

Shrubs and Plants, Etc., Etc.,

IN LARGE QUANTITIES, AT LOWEST RATES.

Catalogue furnished on application.

21v2-tf

JOHN ROCK, San Jose, Cal.

Seed! Seed! Seed!

Wheat—Algiers, Australian, Sonora, Club Chile, Oregon.

Oats—Norway, Oregon, Surprise, Coast, Wild.

Pear—Canada, Windsor, Waco.

Buckwheat—Oregon, Chatfield, Humboldt Co.

Corn—Southern, Eastern.

Flax Seed—California, Oregon.

Potatoes—Early, of all kinds.

IN LOTS TO SUIT, BY

R. M. CHAMBERLIN & CO.,

N. E. Corner Clay and Davis streets, Produce Exchange Building, San Francisco.

Depot for the Pacific Oil Cake Meal. 19v2-3m

Orange Trees! Orange Trees!!

I now offer to Planters and Dealers a large and splendid stock of ORANGE, LEMON, LIME, and ENGLISH WALNUT TREES. Also, a limited amount of

Grafted Orange on Lemon Stock.

At Lowest Market Rates. Address P. O. Box 265, Los Angeles, Cal.

13v2-6m

THOS. A. GAREY.

W. R. STRONG,

Commission Merchant,

And Wholesale Dealer in every description of

SEEDS,

California and Tropical Fruits, Nuts, Honey,

and Agricultural Produce,

Nos. 8 and 10 J Street, SACRAMENTO.

Orders for all classes of Merchandise filled and forwarded with dispatch. 5v2-3m

KELSEY'S NURSERIES.



OAKLAND.

Established in 1852.

CITY DEPOT,

317 Washington Street,..... SAN FRANCISCO.

The Proprietor having upwards of

100 ACRES OF NURSERY GROUNDS,

well stocked with all the leading and best varieties of Fruit Trees and Fruit Bushes; also Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms and with dispatch.

Choice Roses and Pot Plants

of every variety. Trees and Plants securely packed to travel any distance.

FOREST TREES

of Australia, Europe, China and Japan; in fact, we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty, in furnishing a place without being obliged to go from one Nursery to another.

W. F. KELSEY, Proprietor.

21v2-3m

Seeds! Seeds!

New California raised ALFALFA CLOVER SEED, sold in quantities at J. P. SWEENEY & CO.'S

Seed, Tree and Plant Warehouse,

409 and 411 Davis street, San Francisco.

Surprise Oats,

At \$8 per 100 lbs. All kinds of

Seeds, at Wholesale and Retail,

Sold by J. P. SWEENEY & CO.,

409 and 411 Davis street, S. F.

Ramie!

ROOTED PLANTS,

Of the above valuable textile, raised in this State, for sale by the undersigned, in lots to suit, where further information in regard to Soil, Cultivation, etc., will be given.

Inquire of

J. P. SWEENEY & CO.,

Seedsmen, 409 Davis street, S. F.,

Or of

JOSEPH GRAHAM,

22-v2-3m

Haywards, Alameda Co., Cal.

Garden Seeds.

I have on hand and will be constantly receiving an

Assortment of Garden Seeds,

To which I invite the attention of my customers and the public generally. Will also receive orders for

Trees, Plants, Shrubs, Etc.,

Grown at Oak Shade Nursery.....Davisville.

ARTHUR FLEMING,

Apothecary and Druggist, San Leandro, Cal.

22v2-3m

New Seeds and Plants.

Just received, a prime lot of NEW ALFALFA CLOVER SEED HYACINTH GLASSES, DUTCH BULBS, Etc. Always on hand a fine assortment of all kinds of SEEDS, BULBS, PLANTS, FRUIT TREES, at the Old Stand.

E. E. MOORE,

Importer of Seeds, Bulbs, Plants, Etc.,

425 Washington street, San Francisco, Cal.

Send for a Catalogue. 16v2 tf

1871.

1871.

Farmers, Look to Your Interests.

GRASS, CLOVER AND FIELD SEEDS

On hand, in lots to suit, at lowest market rates. Genuine Alfalfa California grown, Red and White Clover, Timothy Seed (Oregon and Eastern grown), Genuine Norway Oats, Also, choice varieties Seed Potatoes, Peas, Beans, Cabbage, Onion and Melon Seeds. Address JOHN, C. DALY, No. 25 Front street, Sacramento. P. O. Box, No. 519. 16v2-3m

H. K. CUMMINGS,

1858.

J. M. MAXWELL

1871.

HENRY K. CUMMINGS & CO.,

Wholesale Fruit and Produce Commission House,

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with those of the producer. 4v23-ly

SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address STORRS, HARRISON & CO., 1v2-6m Painesville, Lake Co., Ohio.

R. IRELAND,

The old Pioneer Broom Factory—Established August, '56. No. 82 J street, between Third and Fourth, Sacramento. All kinds of

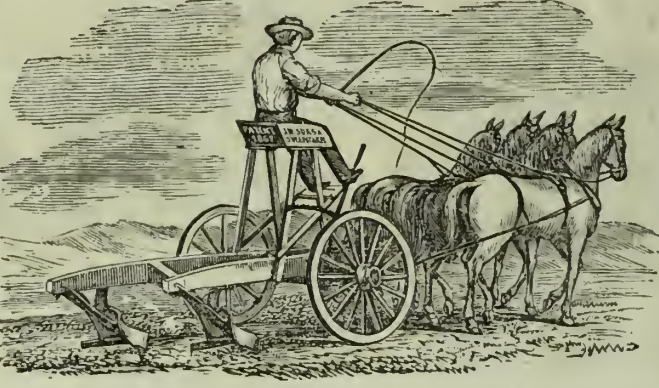
Wood and Willow Ware.

Manufacturer of Brooms, Brushes, Baskets, Matches and General House Furnishing Goods, and sells Nichols & Falvy's Tubbs and Pails. 16v2-3m

THE CELEBRATED CALIFORNIA SWEEPSTAKE GANG PLOW.

HUIE'S PATENT GANG PLOWS---PRICES REDUCED.

Cheapest and Best Gang in the U. S.



2,000 in use in California.

SWEEPSTAKE GANG PLOW.
Sursa's Patent.

The extraordinary sale of this Gang Plow during the past four seasons, is owing to its possessing so MANY IMPORTANT ADVANTAGES OVER ALL OTHER GANGS IN THE MARKET, among which are the following:

The remarkable simplicity of its construction renders it impossible for it to get out of order, and enables them to be built exceedingly strong and light.

By means of powerful levers, conveniently placed, it is raised quickly and easily out of the ground, or readily pressed into it.

It will plow from one to ten inches deep, and ALWAYS retains a level position at any desired point. No other attempts this.

It is the most portable plow in use, and is the neatest and most compact.

The draft is very light, and a boy ten years old can plow as much as two men with single plows, and in a much superior manner.

Extra parts can be obtained at the factory, and are warranted to fit, as all are made from the same pattern.

Those offered for sale the present season are greatly improved, have two levers, and made in the most thorough and workmanlike manner possible, with previous defects corrected, and several important improvements added.

The extensive sale of the Sweepstake Gang has induced numerous imitators to put in market inferior Gangs, which are weak, clumsy, and void of any of the essential points which make a good Gang.

The SWEEPSTAKE GANG is the standard of merit by which all others judge their Gangs, and many use the name to sell their inferior article. The Sweepstake Gang is only manufactured by the "SWEEPSTAKE PLOW CO., at San Leandro, and farmers should order direct of us, or see that they get the SWEEPSTAKE GANG, and not an imitation.

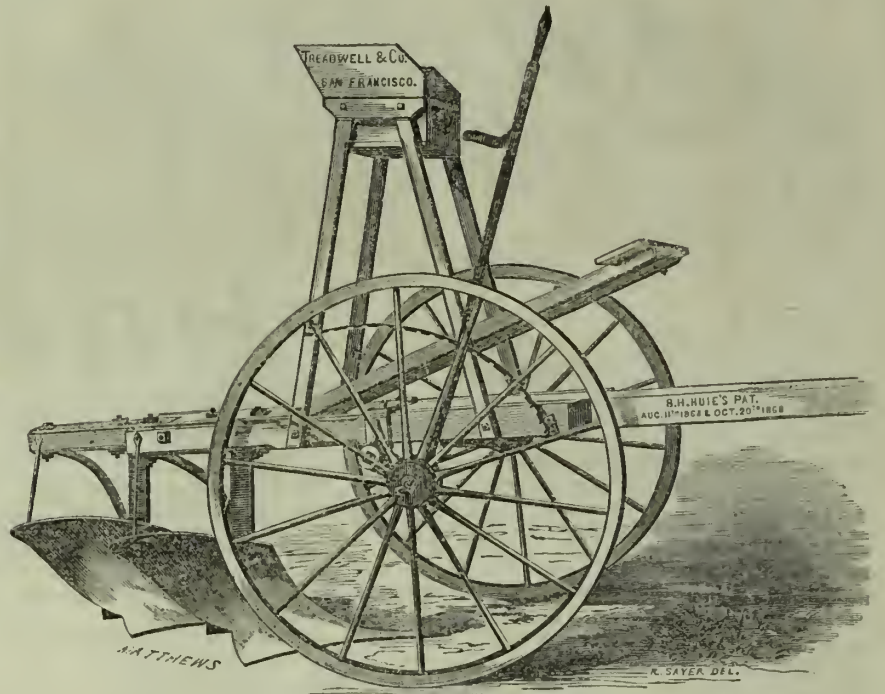
No Gangs Sent on Commission. Orders Filled as Received.

PRICES at SAN LEANDRO: With two extra Points, \$75; with Collins' Moulds, Points and Lands (no extra points), \$85. TERMS CASH.

SWEEPSTAKE PLOW COMPANY, SAN LEANDRO.

OFFICE—13 to 19 Front street, San Francisco.

BAKER & HAMILTON, Sole Agents,
San Francisco and Sacramento.



HUIE'S PATENT GANG PLOW.

Having purchased the Gang Plows imported by Treadwell & Co., at very low figures, we are enabled to offer them at greatly reduced prices—below the cost of importation—giving a Gang combining

Simplicity, Utility, Durability and Low Price.

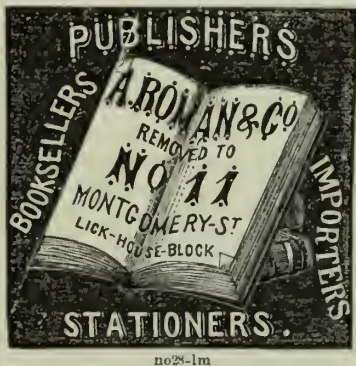
They are selling very rapidly and we would advise early orders. This is the cheapest GOOD Gang offered. Being boxed, the transportation is low.

Price of Steel Gang, \$60. Price of Collins' Gang, \$75. Without Extra Shares.

For an order of five Huie Steel Gangs we will take off ten per cent. Address

BAKER & HAMILTON,

Manufacturers and Importers of all kinds of Agricultural Instruments and Hardware,
22½-21m
SAN FRANCISCO AND SACRAMENTO



WILCOX & GIBBS'

IMPROVED NOISELESS
Family Sewing Machine
IS THE BEST IN THE MARKET.

It is the Most Simple,

Easy to run (a child can operate it), not liable to get out of order, sews the heaviest or lightest goods, and is remarkable for the great variety, perfection and durability of its work.

It is the only Machine

Making the triple-threaded seam, with the twisted loop stitch, the strongest and most elastic made.

The Wilcox & Gibbs

Received the only honorable mention and strong recommendation at the last Stockton Agricultural Fair.

Its Work Received the First Premium

At the San Francisco Mechanics' Institute Fair, 1871.

Don't Fail to Examine.

PERFECT SATISFACTION GUARANTEED.

Other Machines taken in part payment.
Call on or address

WILCOX & GIBBS S. M. CO.,

113 Post Street, S. F.
22½-29m

San Francisco Brush Factory,

FELDMANN, SIMPSON & CO., Proprietors.

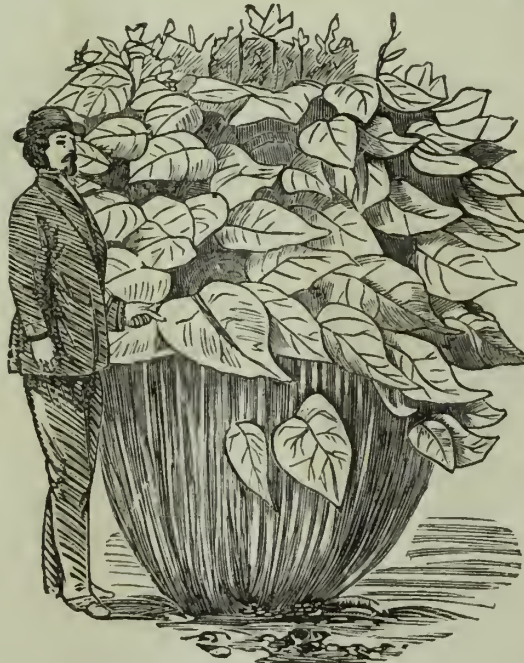
406 Sansome street, bet. Sacramento and Commercial,
SAN FRANCISCO.

Our goods are manufactured by white labor, and sold
at Eastern prices. de9-1m

FARM FOR SALE

At the ELEVEN MILE HOUSE, San Mateo County, containing 26½ acres of good land; a large house; saloon and bar; Barns, Outhouses, Wagon, Farming Implements, etc. Will be sold cheap. de9-1t

RAMIE! RAMIE! RAMIE!



The Most Sure and Profitable Crop that our Farmers Can Raise.
WILL YIELD FROM \$100 TO \$300 PROFIT PER ACRE PER YEAR.

Full information furnished, and Cuttings for Sale by

THE PACIFIC RAMIE COMPANY,

P. O. Box 1539, San Francisco,

Or J. S. FINCH, Haywards, Alameda County, Cal.

19½-22m



dec2-5t

ROCHESTER, N. Y.

J. ROSS BROWNE,

Office, No. 45 Montgomery Block,
SAN FRANCISCO, CAL.

Ramie Roots for Sale,

IN LOTS TO SUIT.

BY JOHN S. DRURY,

At C. F. RICHARDS & Co.'s Drug Store, S. W. corner of
Clay and Sansome streets, San Francisco.,

And by W. W. DRURY, at RAMIE NURSERY,

On American River, near Central Pacific Railroad Bridge,
south side, Sacramento.
21½-23m

GEO. F. SILVESTER,

SEEDSMAN,

Importer and Dealer in all kinds of

Vegetable, Flower, Field, Fruit and
Tree Seeds,

GARDEN TOOLS, PLANTS, TREES,

California Tree and Flower Seeds, Etc.

No. 317 Washington Street,

Between Batter and Front.....SAN FRANCISCO.

6v2-1y4p

GEO. B. BAYLEY,

Corner Sixteenth and Castro Streets, OAKLAND.



Importer and Breeder of
CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand
and for sale.
Address, with stamp, P. O. Box 659, San Francisco.

Volume One of the Pacific Rural Press
can be had at this office for \$3. Bound, \$5. A few
copies only for sale now.



Volume II.]

SAN FRANCISCO, SATURDAY, DECEMBER 16, 1871.

[Number 24.]

CALIFORNIA TRADE WITH MONTANA.

Eds. Press:—I noticed during my trip through Montana Territory that the business men have on hand a large amount of goods of various kinds which were brought from California, wines, soaps, dried fruits, etc., even iron and wagon timber that is brought to your State from the East and shipped back here via Corinne.

California Blankets

are now being introduced extensively. The Pioneer Woolen Mills are sending them with other woolen goods, which are much liked and duly appreciated in this cold climate. As you know, the San Francisco blankets are unequalled for warmth and durability.

The Glassware

manufactured in San Francisco, such as vials, bottles, etc., is finding its way to this market. The drug stores as well as other branches of business would rather patronize San Francisco people than those East, if it can be made any object for them to do so.

California Fresh and Canned Fruit.

Mr. Jas. Lastreto of San Francisco has a large wholesale house in Helena, that receives a car load of fruit from California every week, and his sales for the last three months amounted to \$15,000. He sells his fruit to the dealers in the different mountain towns. Over 100 boxes of apples were sold in one day while I was at Bozeman. To show the appreciation of California fruits here, S. L. Halzman & Bro., dealers in fruit, imported in 1870 over 1,500 boxes of apples alone, and paid the stage company from \$100 to \$150 per day for freight, during the fruit season of California. The principal San Francisco house with which they deal is that of Lusk & Co. I see that your enterprising business men are taking the markets here by storm. The well-known firm of Cutting & Co. have sent an agent up here, who has made a successful trip, and Cutting's canned fruits are to be seen in all the stores throughout the Territory. They have driven the eastern articles entirely out of the Montana market.

Powder, etc.

Common powder has been introduced here from California, and retails at \$5 and \$6 per keg, currency. Large sales are made annually by the agents at Helena, Cannons & Bro. The Giant Powder finds ready sale. An agent has lately passed through Helena in its interest. John Kenna & Co. are agents at that place.

L. Auerback & Bro. imports California saddles, leather, cigars and tobacco. All this shows that your State is alive to her interests and that a move in the right direction is being made by the merchants of your city. Alex. Kemp, a permanent

Wagon Manufacturer.

tells me that he imports his iron and hard wood from San Francisco. The iron comes from Selby & Co., and Marsh, Pillsbury & Co.; the last shipment was 15 tons. His wagon yard is 190x100 and he employs a large number of blacksmiths and coach makers. Mr. Kemp also imports Santa Cruz leather for coach braces, and prefers it to that made in the East.

A Hint to California Merchants.

Some of the business men here say that the California merchants would save them much trouble by figuring up their accounts in currency, as when their bills come made out for gold coin and they go to the bank, they have to pay a per cent. on the California check, and calculate the difference between gold and currency, making a

good deal of trouble. They say the San Francisco people ought to make Montana bills out at currency rates before sending the goods. If all your merchants in San Francisco would have an eye to Montana Territory and once introduce their goods here, giving a good article, whatever it is, California would retain this trade in the future.

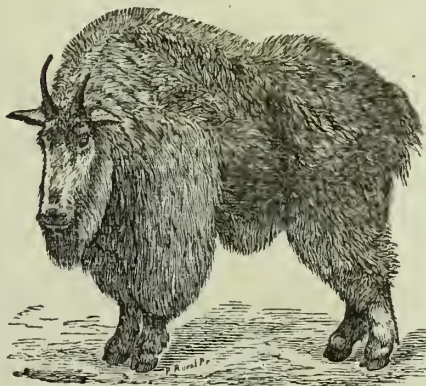
A good many Californians are here now, as well as many people from the East, in the interests of business houses; but the leading business men inform me that they prefer to deal with California houses if they will do as well by them.

One little hint here might be beneficial to some one. A tea merchant would do well to look this way.

The farmers in Montana are a reading people, and in passing through the territory I noticed all the leading Eastern journals on the reading tables of the hotels, etc., and also in private houses. The Scientific Press, Bulletin, Pacific Rural Press, Golden City and Sacramento Union are the principal California papers that I noticed, showing that they wish to keep pace with what is going on on the California side. W. H. M.

THE MOUNTAIN GOAT.

We give herewith a pictorial representation of what is generally known, in the mountains to the east of the Sierra Nevada, as the "Mountain Goat," although it is sometimes called the Ibex; but the



photograph from which our engraving has been prepared differs so widely in appearance from the Mountain Goat—*Aplocerus Montanus*—as figured in Zell's *Encyclopedia*, that we are inclined to believe that the animal here shown may be a different variety.

The animal here represented was captured by Messrs. Palmer & Barker, of Deer Lodge, Montana. The photograph was procured by our traveling agent and correspondent, Mr. W. H. Murray. Judging from the picture of the animal, which is a faithful copy from the photograph, he must be a fierce looking old fellow. Indeed, he is said to be the largest of the species ever taken alive. He stands three feet five inches high, and after three weeks of captivity, during which he was left six days, at one time, without food, he weighed 250 pounds. His weight when captured must have exceeded 300 pounds.

The animal made a gallant fight with the dogs, and severely wounded one of them, but was finally lassoed. The wool of the Mountain Goat is four or five inches in length, perfectly white, and of a very fine, silky texture; but is pronounced by our wool manufacturers unfit for their purposes.

The manner of the pursuit and capture

of these animals is described by the *Deer Lodge Independent* as follows: "They are shy, fleet, and leap from crag to crag sure-footed and fearlessly; but they grow tired and become combative by and by and so are caught in this wise: The hounds start and follow them, and for the time the race is to the swift. But perseverance conquers. Chased for miles they come to bay upon some cliff where the dogs can only come at them one way. While thus engaged the hunters circle off, climb the rocks above them and dropping a lasso dexterously, down it falls around the neck of the animal and strong arms hoists him to the realms above. This method of capturing seems hardly credible, and may remind some people of the story in McGuffey's readers of the Natural Bridge adventure, but its just as true as anything. Some of the captives are young and are becoming quite domesticated already."

A New California Pine.

We have been favored with a photograph of a new species of pine which was originated by Mr. W. H. Pepper, of the Liberty Nurseries, near Petaluma, some four



years since, but which is now for the first time introduced to the public. The annexed engraving is a faithful representation of the first tree produced as it may now be seen, forming a dense, compact and dark green column. The leaves are from one to three inches long, in whorls, from six to seven inches apart. The original plant, which has had every advantage to grow well, is now only four feet high. If people will plant pines in their gardens, this certainly promises to be a most desirable variety, on account of its dwarf habits and very dark green foliage, which

forms a marked contrast with most of the other foliage in the garden.

This new variety of the pine family has been named *Symei*—Syme's Pine. See advertisement.

Science vs. Ghosts.

The public of this city has been very much exercised during the past week with regard to certain somewhat remarkable appearances which have been noticed upon several panes of window glass, first in the residence of the widow Jorgensen on Mason street, and afterwards in that of Mr. Hucks, "just round the corner." All sorts of theories have been suggested to account for the phenomena, and the "spiritualists" and "ghost sharps" have made the most of the opportunity to create capital for their favorite theories.

The appearance of "images" upon glass, such as have so astonished the wonder seekers of this city during the past week, is no new thing under the sun. On applying to Mr. C. Newmann, of the San Francisco Glass Works, for information upon this matter, he has placed in our hands two somewhat rare volumes, treating upon the philosophy and curiosities of glass making, in which, such appearances as those noted above, and many other singular changes in the character and appearance of glass, are noticed, as the result of well-known natural causes. Some writers having attributed such changes to the action of fire, one of the authors above referred to, says:

The presence of garments and jewelry [found in ancient tombs] which bear no signs of any alteration forbids all idea of fire; we must therefore endeavor to find elsewhere the cause of this iridescence. Here again M. Peligot comes to our aid. "The majority of glass objects," says he, "whose manufacture dates back to a remote period, have undergone, by the influence of time and damp, a very marked alteration. All the old glass which is found in the tombs of the ancient Romans and Gauls presents an iridescent and black aspect, giving sometimes very brilliant reflections, like those of the wings of certain species of butterflies. It is to be found even on panes of glass of more modern manufacture placed in the windows of stables, etc., viz., places often exposed both to constant damp and high temperature. The iridescent scales, which can be easily removed by gentle rubbing, are a mixture of silica and earthly silicates, the alkaline silicates having disappeared."

AGRICULTURAL CHEMISTRY.—Prof. Carr, of the State University, recently delivered a lecture on the above subject before the Santa Clara Farmers' Club, which was listened to by a large and appreciative audience. The Professor has a peculiarly happy manner of handling scientific subjects, which gives them an unusual interest in the minds of the ordinarily educated, while they lose nothing of their value to the better informed listener. His illustrations are always of the most simple description, while the apparatus usually employed is in keeping with the simplicity of his language. The Professor is announced for a series of lectures before the Mechanics' Arts College of this city, which will cover the entire ground of his San Jose lecture, all of which will be reported for the benefit of our readers. A brief report of the first lecture of the series is given in our present issue, and the entire series, we believe, will be acceptable to the intelligent and discriminating readers of the Press.

MECHANICAL PROGRESS.

THE VARYING EVAPORATIVE POWER OF BOILERS.

Most engineers are aware that a wide difference exists in the evaporative power of boilers—that it often occurs that two boilers built as nearly alike as the same machinists can make them, of iron of equal thickness, and, to all appearance, alike in quality and character, will under the same apparent circumstances of fuel, etc., perform quite unequally. The fact, we say, is very generally acknowledged; but the cause why it is so is a matter which has never yet been satisfactorily explained. The explanations usually assigned for this relative difference in evaporative power, are imperceptible differences of construction, values of fuel, modes of firing, etc.

Quite recently Messrs. Storer & Whelpley, of Boston, whose names have lately been quite prominently connected with experiments in the use of pulverized fuel, have undertaken another series of experiments, designed to thoroughly test the facts named above, and the cause thereof. In a communication to the *Scientific American* those gentlemen say:

"In order to discover this hitherto unknown cause, a series of experiments was made, based on the supposition that the conditions which affect the conducting power of a metal for electricity—alloys and impurities—would, perhaps in equal degrees, affect its power for transmission of heat.

Nine pieces of boiler plates of different brands were selected for the purpose of the experiment; they were of uniform thickness (five-tenths of an inch.) Some of them were samples of locomotive fire-box plate; and the others of boiler plate.

They were tested for their heat transmitting and steam generating efficiency, with the following results: Allowing the plate of lowest transmitting power to have a value of 100, we have

| | | |
|---|----------------------------|-------|
| 1 | Power of transmission..... | 100 |
| 2 | " " " " " " " " " " | 104.5 |
| 3 | " " " " " " " " " " | 117.7 |
| 4 | " " " " " " " " " " | 118.8 |
| 5 | " " " " " " " " " " | 121 |
| 6 | " " " " " " " " " " | 123 |
| 7 | " " " " " " " " " " | 123.3 |
| 8 | " " " " " " " " " " | 141.9 |
| 9 | " " " " " " " " " " | 144 |

It must be distinctly understood that these transmitting powers were measured by the generation of steam under equal and similar conditions. Each plate was subjected to a number of trials; the temperature of the flame to which it was exposed varying, during each series of trials, but a very few degrees from 550° Fahr., and the time of evaporation of the water but a few seconds.

The ratios of values have been calculated according to the tables for such purposes prepared by Dulong. The experiments have been conducted by Mr. Charles E. Avery, of Boston, a gentleman thoroughly competent by scientific and practical knowledge for the undertaking of such delicate work.

In order to discover and avoid all sources of error, the apparatus and method finally adopted for these determinations were first subjected to the test of weeks of most careful experiment.

To generate an equal amount of steam in equal times and with similar conditions of fuel and draft, boilers made of Nos. 8 and 9 plates would consume constantly 40 per cent. less fuel than boilers made of plates Nos. 1 and 2.

Insomuch, therefore, as their efficiency in the production of steam is vastly greater than that of the inferior plates, the commercial value of these plates will be still greater in proportion. The possibility of a daily economy of 40 per cent. of fuel should induce boiler users to purchase the best plate, and boiler plate manufacturers to exercise more care in its manufacture.

Some of the most considerable variations in evaporative efficiency were found between plates from the same manufactory.

No analyses of the iron of the plates have been made, it having been assumed that the comparative presence or absence of slag or glass—a poor conductor of heat—was the chief cause of the determined variations; though, doubtless, carbon and other elements will be found to exercise decided influences. These we propose to determine; and other points of novelty and interest in regard to boiler plates have been decided, which we hope at some future day to give to the public.

With our method of firing (our application of pulverized fuel to the generation of steam,) which almost entirely eliminates other causes of variation, we had

found one boiler to have an evaporative efficiency of nearly 60 per cent. more than another. Hence the search for the unknown causes of variation.

This is not the only instance in mechanics where such unaccountable differences have been observed. Musicians have observed that, of two violins as nearly alike as human skill can make them, one may be a valuable and the other a comparatively worthless instrument. Those who have studied the art of violin making attribute the difference in tone to unexplained peculiarities in the wood from which these instruments are made. * *

But while we are willing to concede that the quality of boiler iron may greatly effect its power to transmit heat, we think the difference in quality which produces such a result will be found to be mechanical rather than chemical, as Messrs. Whelpley and Storer would seem to think in their remark on the effect of alloys and impurities. At least we have no doubt that molecular conditions, not dependent upon chemical affinity, do effect the conducting power of metals both for electricity and heat.

It is certain that in many instances molecular structure has much to do with conducting power. Wood conducts heat with far greater facility in the direction of the grain than across it. Crystals are well known to exhibit similar variations, in conducting power, relative to the direction of their axes. Conduction is also known to be effected by the conditions of homogeneity or non-homogeneity.

Now as iron is more or less crystalline in structure, according to the thoroughness with which it has been worked, and the presence or absence of foreign materials, we are of the opinion that some of the variations observed by Messrs. Whelpley and Storer may be referred to the arrangement of these imperfect crystals of fibers in the plate, and perhaps to certain approaches to lamellated structure, consequent upon defects in manufacture.

Whatever their cause, if the differences be thoroughly established, they are of the utmost practical importance, and we trust the investigation thus begun will lead to such a general examination and discussion as will throw more light upon the important subject of economical steam production.

RELATIVE VALUE OF BRICK VAULTS AND IRON SAFES.—The Chicago fire has done much to exhibit the relative value of iron safes and brick vaults as places for the safe keeping of valuables. While the safes were comparatively worthless, the vaults generally preserved their contents in a perfect condition. Of course the condition of the safes was due more or less to the intensity of the heat to which they were exposed. Some safes came out all right, while others of the most improved manufacture, when opened, contained nothing but charred remains or a handful of cinders. There is not a safe in existence that could have withstood the ordeal in certain localities. Some of them, heretofore considered indestructible, were cracked asunder and the contents prematurely destroyed. The exterior walls are like so much rusty iron, and will chip off in great flakes, while the interiors of more than one of the larger safes were for some time after the fire so warm one's hand suffered when placed in contact with them. The conclusion unavoidably arrived at is that the best iron safe is not near so safe as a properly constructed brick vault.

A SIMPLE RAILWAY PRECAUTION.—To prevent a Revere disaster on their line, the managers of the Fitchburg Railroad, in Massachusetts, have provided their station-masters and flagmen with six-minute "hour-glasses." When a train passes, the glass is turned, and if a train approaches before the sand has run out, a red flag is displayed and the train stopped. As soon as the sand has run out the glass is turned again, and if a train comes before the sand is down, two flags—red and white—are shown, which indicate "proceed with caution." Afterward, a white flag shows the track is clear.

It is proposed to introduce a new telegraphic service in the German army for artillery in action. Experienced artillerymen are to be posted under cover far in advance of the batteries to watch the effects of the cannonade, and report back by means of a small portable telegraphic apparatus.

COLONEL H. YULE stated at the British Association meeting a short time since that the teak timbers which bound the walls of the palace Ctesiphon, in Babylonia, dating from the fifth or sixth century of our era, are still undecayed.

SCIENTIFIC PROGRESS.

Surface Movements of the Earth.

The old geological theory that from time to time the surface of the earth has been changed by grand catastrophes which, destroying plants and animals, were, on an immense scale similar to the local catastrophes produced by volcanic eruptions and earthquakes, has been abandoned by reasons of our more correct knowledge, founded on careful observations which investigators have been making for many years. These observations have proved that sudden catastrophes are always merely local; but that all the great changes in the surface of our earth, as the upheaval of mountain ranges and the depression of valleys and their ultimate change into lakes and oceans, are gradual and go always on, even at the present day.

The mountains bordering the Pacific Ocean, in fact the whole coast of California, are perpetually rising, and have probably been doing so for half a million of years, while all the land containing in its bosom our great American lakes is slowly sinking, with a probable corresponding upheaval of the State of Kentucky, of Southern Indiana and surrounding countries. Geological investigations prove that once our lakes had their outlets south, till by depression at the north a new outlet was formed, about forty thousand years ago, through Niagara to the St. Lawrence River. The division line of the lakes and the Mississippi Valley has been slowly traveling southward since that time; and when the city of Chicago recently turned the waters of Lake Michigan up the Chicago River into the Mississippi Valley, she simply re-established the old state of affairs, which, if the motion in question continues, will be more difficult to maintain in the future than it is now. Fortunately, this motion is very slow, and only a very remote posterity, some thousands hence, will meet with the difficulties we now foresee, and the bed of the Chicago River becomes lower and lower in its junction with Lake Michigan.

It appears, further, that the State of New Jersey is sinking, and this is even participated in by the City of New York, Brooklyn, Long Island, etc., at the rate of some sixteen or seventeen inches per century. This is insignificant, to be sure; but let it only go on for a thousand years and it is some fifteen feet, so that the new stone docks now commenced in New York City at that time will be totally submerged; but then they will not probably last so long, and the soil of the lower part of the city may be very easily raised half a foot every thirty years. It is evident that the most correct data may be obtained at the sea shore, as the main height of the ocean possesses a perfect stability. This main height is, of course, obtained by continual observation of the tides under different circumstances, and if anywhere the highest tides reach a higher level than they did one hundred or two hundred years ago, it is a proof of depression or sinking of the land.

This depression is going on along the coast of Northern France, Belgium, Holland, and northwest Germany, while the coast of Sweden, along the Baltic, is slowly rising, including the capital of Sweden, the city of Stockholm.

The latest scientific journals report two very striking contemporary upheavals in Spain, entirely authentic. M. de Botello describes them in detail, and the most curious fact is that the short time of scarcely a quarter of a century was sufficient to produce an effect which has surprised every inhabitant who observed the circumstances formerly, and compared them with the present condition. In the province of Jamora, it is observed that from the village of Villar Don Diego, it is now possible to see the upper hall of the church steeple of Renifarzes, in the province of Valladolid; whereas, twenty-three years ago, the summit of the steeple could only just be perceived. The same thing occurs to the same degree and under the same circumstances in the province of Alava, where from the village of Salvatierra the whole of the village of Saluendecau now be seen, while in 1847 the vane of the church steeple could be hardly perceived. These four points are on a line parallel to the system of the Sanseiros Mountains, while the extreme points are one hundred and forty miles apart.

All the movements we speak of here have nothing to do with volcanic eruptions; they are, of course, caused by changed conditions of the interior of the earth's mass, which by these facts is proved not to be

solid, the opinion of some modern geologists notwithstanding; the earth, if not liquid inside, must at least be soft and plastic, in order to make depressions in one place with simultaneous elevations in another.

One other interesting fact we must mention in this connection; it is that the highest mountains are not the oldest, as one would naturally suppose, but belonging to the system last elevated; so that the high Swiss Alps are much younger than the lower Shawangunk mountains.—*Etc.*

AN INTERESTING EXPERIMENT.—Dr. Chandler, in a late issue of the *American Chemist*, sketches an interesting experiment based upon the reduction of metallic silver from the nitrate. When solid nitrate of silver is placed upon glowing charcoal, deflagration takes place, the result being that the silver is left behind in the metallic state. The curious phenomenon attending the reaction is that the nitrate, being fused by the heat of the chemical action, sinks down into the pores of the coal, and as each particle of the latter is replaced by the reduced silver, the structure of the original wood is retained.

Dr. Chandler states that he has succeeded in this way in producing masses of silver weighing an ounce or more, which show most beautifully the rings of annual growth in the wood. The author directs that a crystal of the nitrate be placed on the end of a stick of charcoal, and the blow-pipe flame directed upon the coal beside it to start the reaction. As soon as the deflagration sets in, crystal after crystal of the nitrate may be added to keep up the supply.

NEW MODE OF PREPARING SULPHURETTED HYDROGEN.—This gas, a common reagent in many chemical operations, may, it is said, be conveniently generated by heating a mixture of equal parts of sulphur and paraffin (or with a larger proportion of sulphur) in a flask to a temperature not much above the melting point of the sulphur—sulphuretted hydrogen will be evolved with great steadiness. The author recommends the process as the most convenient of any yet devised for laboratory use. Where a pound of material is used in a suitable generating vessel, the evolution of gas may be prolonged for several days with great regularity. The production of the reagent can be stopped and renewed at pleasure by withdrawing or applying the lamp.

INTERESTING ASTRONOMICAL DISCOVERY. Professors Harkness and Hale, of the Washington Observatory, have lately succeeded in obtaining a spectrum of Encke's comet, now rapidly approaching its perihelion. The lines obtained indicate that the substance of this comet consists of a glowing cloud of gas—of what elements composed we are not informed, or indeed whether the spectrum showed it to consist of any of the elements known on the earth. The fact of the gas being in a highly heated condition, however, instead of existing at a comparatively low temperature is of itself an interesting fact—if such has been shown.

This comet is evidently undergoing great changes in its physical condition, as in 1829 it was seen with a light—intensity of 1.2. In 1868 it had a light of 2.2. On the 13th of October last, its light was 10. The present is about the most favorable time of its orbit to observe it, as it reaches its perihelion on the 29th of this month.

CEMENT TO RESIST SULPHURIC ACID.—Take caoutchouc; melt this by gentle heat; add from 6 to 8 per cent. of the weight of tallow, taking care to keep the mass well stirred; add dry slaked lime, so as to make the fluid mass the consistency of soft paste; and, lastly, add 20 per cent. of red lead, whereby the mass, which otherwise remains soft, becomes hard and dry. This cement resists, according to Dr. Wagner, boiling sulphuric acid. A solution of caoutchouc, in twice its weight of raw linseed oil, aided by heating, and the addition thereto of an equal weight of pipe-clay, yields a plastic mass which also resists most acids.—*Chemical News.*

FELDSPAR ARTIFICIAL STONE.—A new artificial stone is shortly to be introduced into the market, composed of feldspar or feldspathic minerals (previously vitrified), quick-lime, and flint. Hydrate of lime, it is claimed by Dr. Ott, will slowly replace the soda or potash of the feldspar, forming a compound like Portland cement. This reaction is accelerated by the presence of tint, which, according to Fuchs, contains soluble silica. The latter ingredient has a strong affinity for the alkalis of the feldspar.

CORRESPONDENCE.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.—CONTINUED.

[By our Traveling Correspondent.]

Large Vineyard.

The Loue Hill vineyard, owned by D. M. Harwood is the largest in the country, consisting of 125 acres. Mr. H. owns, in all, 220 acres, situated seven miles south-east of San José. From this vineyard 5,000 gallons of wine were manufactured in 1870, and 20,000 the present season. Some farming is done also; 20 acres were in wheat this year; the crop, however, yielded only 20 sacks per acre. On another small lot two tons per acre of rye hay were made. From 12 to 16 men are regularly employed. This vineyard is, I believe, the largest in the State; the whole 220 acres will eventually be planted in vines.

Reclamation Scheme.

Messrs. Drinkwater & Kelsey, who own 1,579 acres, one mile west of Burnett, are engaged in making a long ditch through a portion of this farm, which, although it will only cost \$500, will reclaim 300 acres, always overflowed in a wet season, which will be worth to them \$30,000 when reclaimed. These gentlemen are in the dairy business, milking 125 cows, and making cheese in the summer, and butter in the winter. The ditch will be completed by the time this is in print.

Fine Dairy.

J. M. Owens, Esq., is the proprietor of 328 acres of good, level land, located 12½ miles south of San José. He is farming 100 acres and uses the balance for grazing purposes. He has 100 head of American cattle and at present is milking 50 cows, making butter and selling milk in the San José market. The milk brings 50 cents a can of three gallons each, at wholesale. The farm is carried on in a very orderly manner, and the out houses, etc., are commodious and complete. Mr. O. has 30 head of fine horses of the "Morgan" and "Black Hawk" breeds, including two stallions. Among his milch cows the "Durham" predominates. The

Kirk Bros.' Ranch

is four miles south of San José and embraces 470 acres, 400 of which were in wheat and barley this season, the crops being light. From a small patch of corn, however, 50 bushels of corn per acre were taken. They have 12 acres in orchard and vineyard and employ from 4 to 6 men.

Seven miles southwest of San José is J. T. Gifford's farm consisting of 80 acres, 54 of which were in wheat this year, and strange to say, while it is almost a perfect gravel bed, and his adjoining neighbors with adobe lands, had light crops, he raised 1,500 bushels, or about 30 bushels to the acre. I was shown upon this place, a well, 100 feet deep, with scarce enough water to quench the thirst, yet by digging down into the soil anywhere on the farm from 10 to 12 inches, moisture sufficient to insure good crops, might be seen.

Orchards and Nurseries.

L. F. Sanderson has a nursery of 13 acres 1½ miles north of San José, where are to be seen every conceivable description of rare plants. The greenhouse is finely constructed and contains plants from all parts of the world which can be made to grow in our climate.

G. W. Tarlton's orchard, 2 miles north of San José, consists of 23 acres, although he has 30 acres altogether. All kinds of fruit are grown here. Mr. Tarlton marketed this year 175 tons of fruit and berries, and has on hand at present writing nearly as much more of apples and pears. His improvements are very fine and he regularly employs six men.

B. S. Fox has a tract of 200 acres, 2½ miles north of San José, one half of which is used as a nursery and the other as an orchard. Has sent to your city an average of two tons per day during the fruit season. He has sent East 11 car-loads, and has raised in the aggregate 1,000 tons of fruit this year. From 15 to 20 men find employment on this place.

M. Farney's fruit ranch is situated 3

miles north of San José on the Mission road and consists of 50 acres, 45 of which are in orchard. He has raised this year about 600 tons of fruit and has on hand at present 30 tons of Newtown Pippins and Nickejacks, the latter an apple of large size with red stripes, and which keeps till January. He also has a small quantity of "Rome Beauty" and "Smith's" cider apples. Mr. F. is also a grape grower to a small extent, having sold in your city this season about 20 boxes per day, principally of the "Rose of Peru" variety.

W. A. Z. Edwards has 40 acres of land 3½ miles north of San José. Of this 5½ acres are in orchard. From 10 acres, he this year raised a crop of volunteer barley that came up with the first rains, and upon which pastured his young stock till the middle of March. The crop was harvested in July and yielded 18,360 pounds which sold for \$384.56 or \$2.10 per cwt. He cut also from the same field three tons of hay worth about \$45. The straw remaining will be fed to the stock during the present winter.

S. Q. Broughton's ranch, near the one above mentioned, consists of 65 acres, 12 of which are in orchard, 25 in strawberries, and 5 in onions. He markets annually 90 tons of apples and 35 tons of strawberries, the latter of which averaged him 5½ cents per pound, wholesale. He raised 150 100-pound sacks of onions from each acre.

A Starch Manufactory

s situated 2½ miles north of San José, John Johnson, proprietor. The works are run by a 12-horse power engine, and make about 7 tons of starch per month. Thus far starch has wholesaled at about 10 cents per pound only. As it is principally made from wheat, that article has to be down to \$1.50 per hundred to compete with Eastern manufactories. Owing to the present price of wheat, the manufactory is temporarily suspended. Mr. J. is also possessor of 100 acres of fine land adjoining the works, 12 of which are in orchard, 10 in strawberries, and the balance in hay and grain. He is milking 20 cows, selling the milk at San José. Eight men are regularly employed.

Santa Clara,

although a quiet, unpretending place, nevertheless ranks among the cities of the State. It is situated about forty-eight miles south of San Francisco. The town itself has a population of 3,000, though the township contains 3,520. It is connected with San José by one of the finest roads in the State, which of late, however, is rather cut up, owing probably to the travel. This road is called the "Alameda," and on either side for the whole distance are fine, large willow trees which in some cases form a complete arch over it. These trees were planted directly after the founding of the pueblo in 1777, and were carefully tended by the Fathers. The road is one of the features of the State, and the citizens of both the towns should take more care in protecting the trees and keeping them in good condition. One of the well-known institutions of Santa Clara is the College, which is carried on by the Fathers, and the buildings and improvements of which do credit to its founders and the city.

Business Enterprise.

Among the merchants, Mr. J. Widney, of this place seems to do the bulk of the business. He is in the auction and commission business, has a tinstore, manufacturing articles from that material, and deals in groceries, dry goods, clothing, agricultural implements, crockery, patent medicines, paints, and in fact, everything that is to be desired or needed on the farm or in the household. Like Mr. Spring, of San José, he is an extensive advertiser and has built up a business in Santa Clara like the former has in San José. The buildings which he occupies are his own, and in extending his business he has built and rebuilt until he owns and occupies nearly a whole block. Mr. W. is a liberal man and was among the first to respond to the calls from the San Joaquin, sending a quantity of flour.

Rus in Urbe.

Dr. B. F. Headen, of Santa Clara, owns 60 acres within the city limits, 20 of which are in orchard, 12 in strawberries, and 5 in blackberries. He has raised over an average crop this year and sold most of the product in your city with the exception of the table grapes, which were sold in San José. On this little place are 10 head of fine horses, one of which, a Belmont gelding, 7 years old, is valued at over \$600; there are also three fine brood mares of the same stock.

Unfermented Juice of the Grape.

As considerable inquiry has been made as to where this article is manufactured,

etc., I will state here that the above-named gentleman, who is the inventor of the process by which it is made, has on hand about 300 gallons and is the person who applied for a patent for the same a year or two since, but his application was denied. Since that time, however, the patent authorities at Washington have written to him to make application, which amounts in effect to a recognition of the validity of his claim. There is certainly some merit in an invention which will enable one to keep grape juice for a long time without fermentation, and the Doctor has proved the efficiency of his process by the fact of having some on hand which is three years old. We may look forward to the time when wine can be drunk with impunity, and temperance men not be restricted to the glass "which cheers but not inebriates."

Small Farm—Fine Stock.

Situated 2½ miles northwest of Santa Clara is the ranch of Mr. S. N. Putnam, comprising 40 acres, all under cultivation. Two acres are in orchard. From 18 acres which were in wheat this season 58 bushels per acre were raised. The soil is a rich adobe with just enough alkali to make it productive. He is an attorney and dealer in real estate in your city, but indulges his rural tastes by managing this little farm and raising fine stock.

The stock and poultry are of all varieties. Of fine poultry, he has a number of Brahmas and Cochins, among which is one rooster valued at \$25. There are a few full-blooded Cotswold sheep and a number of Berkshire swine. He has ten thoroughbred Holstein milch cows; one thoroughbred bull of the same breed, for which he paid \$1,000 to Mr. Emerson, of Mountain View, who was the first importer of the stock and who will be mentioned hereafter. Mr. Putnam has three calves, full blood, and several yearlings thoroughbred Holstein crossed with Durham. One sucking calf of this breed was sold for \$100. The peculiar mark of the breed, black and white, is pretty generally known. There are also on the farm several of "Chieftain" colts—three-minute animals, and very fine specimens. The improvements on the place are very complete; the concrete barn and stable combined is a model one and was built not only for the convenience of the owner but for that of a future generation. The dwelling and other buildings are made to correspond.

Good Yield.

Mr. W. C. Parker, whose ranch, consisting of 220 acres is situated a little north of Santa Clara, raised from 200 acres this last year, 180 tons of hay and 1,800 sacks of wheat—a pretty good crop for a dry season. The barley and oats on the same land was also about the average crops. From Mountain View to Mayfield in my next.

L. P. MC.

Experience in Cultivating Blackberries.

EDITORS PRESS:—Some time back I promised before planting season to give my experience with Blackberries in California and the East; will try to do so now. I believe it was the spring of 1857 we bought our first vine, consisting of a single root and top not over eight inches long; paid one dollar to Mr. Sanford, of Shellmound Nursery for it. After planting, placed a cask of manure near by on which water was put frequently to run through to the vine; under this treatment it grew well and furnished a liberal supply of roots by fall, which, together with more purchased from an importer, were cut into pieces about two inches long and placed in a hot bed, as is usual, to raise sweet potato slips. Thus treated they sent up shoots two or three inches high, and were then transplanted to the garden, where some were lost dying out; but in the fall we had about 300 thrifty plants; when we took them up, turning over the soil deep, to find all the roots, which we then cut up about two inches long and placed, alternate with layers of soil in boxes, and left in a warm place until spring, by which time most of them showed little eyes or shoots starting.

Having decided that the hot bed was unnecessary, furrows were marked three feet apart and three inches deep, and the cuttings were dropped therein and covered with a hoe; they came up so well that in the fall

I estimated the number to be about 25,000. Some of the cuttings that had been planted with collar or top wood on them produced fine fruit which took the 1st premium at the Alameda county Fair in Oakland.

In the spring of 1860 I planted 4½ acres in Fruit Vale, Alameda county, having first well plowed and subsoiled; struck out furrows eight feet apart; cut tops off short, and set them five feet apart in the rows. I allowed a few plants to produce fruit that year, which caused some to die. About an acre was upon a hard dry hill side, where they did not do well; 3½ acres were rich bottom where they grew fine, producing in 1861 about \$1,500 worth of fruit, gross receipts, and there was a loss of \$300 from improper pruning, it being then, as now, taught in our journals, that plants should be well pruned in the spring; but the loss in number of berries will be made up in size and appearance; and my motto being, "always the best," I was following out the doctrine, having gone about half over the patch when sickness stopped me. Day after day passed by, until by the time I was able to be in the patch again, they were green with leaf, but greener with weeds, some being two feet high. By the help of Chinese John the weeds were cleaned out; yet too late for pruning, much to my regret; but not so when the crop ripened, for the fruit upon the unpruned vines proved to be quite equal to the pruned, and just that much more; for the soil was rich and moist enough to supply them. Thus sickness, that time, saved me \$300 besides giving me the experience.

My next plan was to keep the canes topped down to 3½ feet, and side shoots pruned in enough to keep them out of the way during the growing season, which also causes them to make many fine productive shoots, the fine branches being best for fruit. Thus treated, 3½ acres gave \$2,500 gross receipts, at an average price of 7½ cents per lb., in the summer of 1862. I then went East. I must not forget to mention that the variety cultivated with such good results was the "Lawton." I had but one row of "Dorchester," which though in the best part of the patch, was never profitable and the fruit was not as large as the Lawton. I had also 250 Dewberry or trailing Blackberry vines imported from New Jersey; but they always blighted in the blossom, and proved unworthy of cultivation.

On going to Delaware I found my brother with a patch of Lawtons on red, gravelly soil; plants set nine feet apart each way. They did well so long as supplied with plenty of manure. The Dorchester, there, was not equal to the Lawton; so it began to surprise me that they took the premium in Boston. Being in that city during the summer, I inquired of one of the fruit raisers, "Why do you give the premium to Dorchester, when the Lawton is superior." He replied, "Come to our exhibition and see;" and I was surprised there to find the Dorchester very large and fine,—ahead of the Lawton. But if our New England friends succeed best with any variety of fruit, we should remember it may not be the best for us of California, or the warmer Southern States.

I next plowed and subsoiled a few acres of clay loam, 15 inches deep, in Chester county, Penn., and planted two acres to Lawtons, by marking out furrows nine feet apart, and dropping plants with tops cut off, and pieces of roots six inches long, every two feet. I covered with a plow, and harrowed down to kill weeds, just before the blackberries came up. They did well, making fine, compact rows. The fruit was fine, though not equal in quantity to the California crop. I also had Early Wilson and Kattatunny in bearing; the latter resembled Dorchester, but superior; the former quite large and early. When bushes need to be tied up, as they do in Pennsylvania, because of storms, I found a wire drawn tight on each side of the rows, then pressed in and hooked over nails in stakes set down the row thirty feet apart, the best and cheapest.

ISAAC B. RUMFORD.

Orange Grove, Tulare Co., Nov., 1871.

BROOM CORN FOR CATTLE.—Unquestionably the best way to dispose of broom corn seed is to feed it to the fowls. The next best mode is to give it to the sheep; they are fond of it, and fatten upon it nearly as fast as upon Indian corn. Ground with corn, rye, oats or barley, it is profusely fed to cattle, and when mixed with wheat bran it is good for milch cows. The Shakers frequently feed it to horses, and at the season of the year when this grain is abundant they use it exclusively.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA COUNTY—**PLOWING**—*Oakland Gazette*: The ground is now wet enough throughout the county for plowing.

BET SUGAR—*Oakland Terminus*.—The new crop of beet sugar is just out from Bonnell's sugar factory at Alvarado, and is of a decidedly good quality. The sugar is of a white granulated substance and tastes sweeter, if anything, than imported sugar.

AMADOR COUNTY—**THE FOOTHILLS**.—*Jackson Ledger*: That the soil of the foothills is equally productive and yields as much on an average per acre as the valley lands, has been satisfactorily proven. Failure of crops in the foothills in the past has been unknown; long after rain has ceased in the valleys, fertilizing showers in the mountains continue, and when vegetation has become parched, withered and dead in the valleys, our mountain crops are still green and in vigorous growth. Again, for profitable cultivation of the grape, no part of the world can surpass the foothills. Fruits of every variety are produced in profusion, and with but little cost or labor; while garden vegetables can be gathered fresh from the ground during every month in the year.

BUTTE COUNTY—**THE CHINCH BUG**.—*Chico Enterprise*: Last season on the farm belonging to Harmon Bay, millions of chinch bugs could be seen crawling from the sheaves of wheat and seeking the fence-lines of the field. They must have made their entrance too late for damage, but we may justly fear their ravages the ensuing season.

IN THE BUTTES.—*Cor. Marysville Appeal*: The farmers have commenced plowing in the Buttes. Enough rain has fallen for them to do very fair work, though not as good as is desired.

CALAVERAS COUNTY—**PLOWING COMMENCED**.—*Cal. Citizen*: The ground is wet down a sufficient depth to enable farmers to plow, and they are all now as busy as bees in putting in their crops for the next year. With moderate rains during the next three months a bountiful harvest will be secured.

COLUSA COUNTY—**EXTENSIVE FARMING**.—*Sun*: Pike Gupton on the Glenn tract near Jacinto, has already seeded 2,000 acres, and expects to seed several thousand more this season. He keeps 30 men and 60 horses in constant employment.

CONTRA COSTA COUNTY—**FINE YIELD**.—*Cor. Gazette*: Maxey's vineyard is situated 6 miles south of the peak of Mt. Diablo, on little Alamo Creek, which empties 7 miles below, in Amador Valley, and is only 1 1/4 acres in extent. The yield of wine this last season amounted to over 1,500 gallons to the acre, exclusive of over 5 tons of grapes sold to peddlers, etc., and otherwise disposed of. The proprietor informed us that this is the largest yield he has had during the last 10 years. The highest average during that period was 680 gallons, which was considered a very good yield indeed. His orchard has not been behind-hand. Apples, pears, cherries, plums, peaches, etc., inclusive, amounted to over 15 tons.

FRESNO COUNTY—**KING'S RIVER**.—*Cor. Expositor*: The bottom lands on King's River, are fertile and never fail to produce from one to two crops annually, and the plains are as productive in a favorable season, as any land in the State—even in the driest year, by irrigation, and the facilities for irrigation now being pushed ahead, fine crops can be produced. Vegetables, corn and small grain are raised in abundance.

HUMBOLDT COUNTY—**SUGAR BEETS**.—*Eureka Sentinel*: Sugar beets have been grown in Eel River Valley, Humboldt, that for size and fineness of grain and texture cannot be excelled. It is thought the beet sugar business might be made profitable in Humboldt.

KERN COUNTY—**ABUNDANT CROPS**.—*Havilah Courier*: Cotton, grain of all kinds, corn, grapes, the ramie plant, fruit, and indeed, almost everything can be raised in this county. Two crops were this year secured in Kern River Valley, by all the farmers who took the trouble to raise them. A crop of wheat was raised and garnered in July, corn was then planted and magnificent crops secured in October. Some of the corn stalks reached 18 feet in height, and were probably as large, full and heavy as any ever raised in the State.

The rainfall in the valley has been 1 3/4 inches; in the mountains much heavier.

LASSEN COUNTY—**HOMESTEADS**.—*Lassen Sage Brush*: "The official plats of Town-

ships 26 N., Ranges 9 and 10 E., Mount Diablo Base and Meridian, have been filed in the District Land Office at Susanville, and settlers have 90 days from the date of their filing in which to claim their homes under the right of preferred purchasers."

LOS ANGELES COUNTY—**BIG TREES**.—*L. A. Star*: A discovery of trees, supposed to be the tallest in South California, was lately made by an old prospector on the Mts. in the southern portion of this county. The highest of the trees is 185 feet, and is 18 feet in circumference. Many of the pines are 100 feet tall and as straight as an arrow.

We believe that our grapes are about all used up, and the distilleries have no more work to perform at present. An immense quantity of wine and brandy has been made this season; more, we think, than has ever before been manufactured in this county in one season.

The grass is starting up all over the county; in some places in the valleys it is over three inches high.

The *News* estimates the yield of the various vineyards in the county, at 1,230,000 gallons, in wine; and about 50,000 gallons, in round numbers, of brandy. The estimated cost of wine-making is placed at 15 cents per gallon, the manufacturers generally finding a ready market for their wines at 20 and 25 cents per gallon.

MARIPOSA COUNTY—**RAINS**.—*Mari-rosa Gazette* Dec. 1st: The rainy season opened in good style about three o'clock on Saturday morning, and continued without cessation until a late hour on Sunday night. Miners and farmers wear a cheerful look, and everything is lively.

MONTEREY COUNTY—**MORE RAIN NEEDED**.—*The Pajaronian*: A good deal of rain has fallen, but not yet enough for successful plowing. In some localities, plowing can be done, but the ground requires one more good rain. Extensive arrangements are being made in this section, for farming on a large scale, and we predict for our farmers here, a season in no wise inferior to the last.

SINCE the completion of the railroad the farmers of Pajaro are hauling their grain to the depot for transportation to San Francisco.

NAPA COUNTY—**WINE PRODUCT**.—The wine product of Napa Valley the present year, is 700,000 gallons, of which the St. Helena dist. furnishes about 400,000. The climate and soil produce a grape of very superior quality for producing perfect wine. Messrs. Richie & Fogg, of St. Helena, have just forwarded four car-loads of wine to Memphis, Tenn., where they have established a depot for the sale of California wines.

NEVADA COUNTY—**PLOWING**.—*G. V. Union*, Dec. 1st: We met several farmers of this vicinity yesterday who say that the late rains have done better for them than has ever been known before. The ground has been wet sufficiently for plowing, and the wetting has been just right for good work. The earth pulverizes beautifully this year, is the testimony of all who have been plowing. The number of acres to be planted this year will be largely increased over that of last year.

PLUMAS COUNTY—**DEEP SNOW**.—*National*, Dec. 2d: The first snow of the season commenced on Friday evening last and continued for several days, shutting up the roads and cutting off communication with the outside world. A drove of 400 head of beef cattle, belonging to Mr. Ward will be taken below in a few days by the way of Buck's and the Buckeye.

SANTA BARBARA COUNTY—**VEGETABLES**.—*Ventura Signal*: Since the rain, many persons have been busy planting potatoes, peas, radishes, lettuce, onions and other garden vegetables.

DATES.—*Santa Barbara Press* says: Our wife planted some Arabian date seeds last spring. She now has a dozen beautiful young date trees growing in the garden. The large date-palm growing here in the Mission orchard are said to be of the same class.

A very gratifying interest is taken in the Woolen mill project.

GARDENING: People are making gardens in San Buenaventura, and planting potatoes, peas, radishes and other garden vegetables.

SAN BERNARDINO COUNTY—**GOOD RAINS**.—*San Bernardino Guardian*: The rain fall has been sufficiently great to set all our farmers to plowing. If these rains are followed by other timely ones, a larger area than ever before planted in this valley will be sowed in grain before the beginning of the new year.

SANTA CLARA COUNTY—**TROPICAL FRUITS**: Date palms are growing in Santa

Clara and have not been seriously injured by the frosts of two winters. The Chinese orange is recommended for places where the winters are cold. It is as hardy as the peach, if report be true. An orchard of forty acres is to be planted with nut trees next spring near Lexington. Of 62,000 budded Languedoc almond trees in a nursery on W. W. Hollister's ranch, 25,000 have been killed by grasshoppers and drosophila. The remainder will be set out in the largest almond orchard in the State. The 50,000 tea plants in nursery at the same place are thriving, and next summer the Japanese gardener in charge will commence to make tea, though the production will be small until the trees are set out in plantation.

SANTA CRUZ COUNTY—**NURSERIES**.—*Santa Cruz Sentinel*: We have two of the finest nurseries in the country in this county—those of Mr. Bern of Santa Cruz, and Blackburn and Waters of Watsonville. These gentlemen keep the finest trees, berries, plants and shrubbery to be found in the State, and always true to order. The American Walnut is fast growing into favor and is fruitful as well as beautiful.

SAN DIEGO COUNTY—**OLIVE OIL**.—The Old Mission in San Diego one of the oldest in the State, has been rented by a party who is busily engaged in picking olives and making oil for table use.

GRASS is already covering the hills in the neighborhood with its green coating.

SAN DIEGO shows specimens of manufactured tobacco of good quality from plants raised in that vicinity.

SAN JOAQUIN COUNTY—**SHEEP BURNED**.—*Antioch Ledger*, Dec. 2: A flock of 15,000 sheep were lately burned to death near Antioch, by the burning of the tules upon which they were grazing. The fire is supposed to have been the work of incendiary, and the flames spread with lightning rapidity through the parched tules. In the hasty retreat of a large band the above number were encircled in the flames. As they huddled together, vainly endeavoring to seek relief from the excruciating torture, their mournful bleating were mingled with crackling flames, and the scene, as described by an eye witness, was truly pitiful.

THE *Stockton Independent* is informed that there will be a much larger amount of land sown in wheat this winter than ever before.

SOLANO COUNTY—**WINE PRODUCT**.—It is estimated that Green Valley, in this county, has produced 90,000 gallons of wine this season.

SONOMA COUNTY—**CIDER INTEREST**.—*Petaluma Journal*: P. N. Woodworth informs us that he has this year made 10,000 gallons of apple cider. The mill and press used are of his own construction, and will easily make 300 gallons of cider per day, with the assistance of a man and horse. The cider manufactured by Mr. Woodworth is converted into vinegar and shipped to the San Francisco market.

THE *Democrat* says that Sonoma has been favored with a sufficient quantity of rain to enable the farmers to plow.

THE *Russian River Flag* has a clip of wool from an Angora goat, owned by S. A. Rendall, of Santa Rosa. The quality of wool is abundant evidence as to the value of the goats. Mr. Rendall has a flock of 300 goats, on his ranch near Los Angeles, which he proposes bringing to Sonoma county.

SUTTER COUNTY—**MORE RAIN NEEDED**.—*Marysville Appeal*: In conversation with ranchers from Sutter county, we learn that the late rain wet the ground only about three inches. It will require another rain of equal magnitude with the last to enable them to do good plowing. A large area of summer fallow and volunteer grain has been planted in Sutter and this county, this season. But little, if any other, has been put in, the ground being yet too dry.

STANISLAUS COUNTY—**HEAVY RAIN**.—*Stockton Independent*, Dec. 1st: A gentleman from Stanislaus county informs us that on Tuesday night Modesto was visited by the heaviest rain in that county for the past three years. Fifteen miles southeast of Modesto, ground that has never been broken by the plow is wet four inches deep.

TULARE COUNTY—**GRASS STARTING**.—*Visalia Delta*: Grass in many localities in this region is starting nicely, and in some directions verdure is already up so that sheep can nip it. Farmers and stock men are in the best of spirits on account of the favorable promises of the season, business seems to be rather brisk and altogether the condition of things is remarkable encouraging.

TUOLUMNE COUNTY—**GOOD PROSPECTS**.—*Sonoma Democrat*, Dec. 2d: On Saturday last, the long, wished, for rain commenced falling. Everybody is pleased, and our farmers are busy plowing.

YOLO COUNTY—**VEGETATION STARTING**.—Enough rain has fallen to wet the plowed ground through and cause vegetation to spring up and grow, and insuring good feed for stock.

YUBA COUNTY—**LARGE BARN**.—*Marysville Appeal*: Chas. Hedges of the Yuba dairy has built a new barn 200 feet long and 100 feet wide. This is the largest barn in Northern California.

OREGON.

WHEAT IN STORE.—It is estimated, that 50,000 bushels of wheat is in store at Hillsboro, and 50,000 bushel of oats and 30,000 bushel of wheat along the Tillamook River.

PLOWING.—*Walla Walla Union*: Since the late abundant rains our farmers are busily engaged in plowing for fall and winter grain. The ground is in excellent condition, and large crops will be sown in time to insure an abundant harvest. There is a great scarcity of feed for stock in the valley this winter; potatoes are selling at one cent a pound.

SNOW has fallen at Umatilla and the Dalles, and stock in Polk county have suffering on account of the snow having covered up the feed.

THE clearances from Oregon for Great Britain direct since January 1st, 1871, comprise 11 cargoes of wheat, containing 194,047 centals of wheat.

THOS. AYERS, of Marion county, has received 100 Leicester sheep from Australia.

THE *Mountaineer* has seen a lot of apples 16 of which made a bushel.

WHITE spruce, valuable for finishing purposes has been found in the Cascade mountains.

NEVADA.

INDEPENDENCE VALLEY.—*Elko Independent*: This very beautiful and rich grazing valley is situated in Elko county, 45 miles north of Elko. The valley is 40 miles long by 7 wide, well watered by the Owyhee River and a number of mountain streams. The land is equal to any on the coast and free from alkali. This is considered the best valley in the State for grazing purposes. For miles on each side, the foothills are covered with a luxuriant growth of bunch grass. During last summer there were only 600 head of stock in the valley. Now it contains 10,000. This valley bids fair to excel any of its dimensions in the State for agricultural and grazing purposes.

ARIZONA.

THE CROPS.—*Tucson Citizen*: This market is well supplied with a good quality of Irish potatoes. Several tons were brought in this week from Santa Cruz and the Sonoita valley—mostly from the latter. W. H. Ferguson of the Sonoita settlement, left a splendid sample at our office. The land of the valley is very rich, abundant and is adapted to the perfect growth of everything ever tried to be produced on it. The water is pure and cool, the soil not excelled in fertility, and the valley one of much natural beauty.

SUGAR CANE.—Mr. P. R. Brady has demonstrated that a first-rate crop and quality of Southern sugar cane can be produced in the Gila river valley. His farm is near Florence, and this year he produced many tons of cane which experienced judges of the article say is equal to the Louisiana growth. There seems no sort of doubt but that the making of sugar in the Gila and Salt River valleys will become an important industry. The corn crop is all gathered in Gila Valley. It consists of 190 acres, and the whole yield was 270,000 pounds. On account of repeated Indian depredations, the corn was much neglected in the early part of the season when attention was very necessary. The potato crop is now being dug. No estimate can yet be made of the yield, but the potatoes are of a larger and better quality than have heretofore been raised in this valley. The bean crop was almost a total failure, it being destroyed by the bugs when in bloom. About 6,000 pounds of beans were grown here this year. A small quantity has been sold in Tucson, but the bulk of the crop will be kept for home consumption.

COLORADO.

THE South Park is a fine feeding ground, fifty miles long and forty miles wide; the Arkansas and its branches, a little further south, furnish many thousands of square miles of grazing; the streams through Eastern Colorado, and especially those of the Grand Divide, furnish water for stock which may feed and fatten upon millions of government land.

HORTICULTURAL.

Some Tropical Fruits now being, or Likely to be Cultivated, in California.

[Written for the PRESS, by E. J. HOOPER.]

A correspondent, Mr. S. B. Hines, writes to the PRESS, to enquire about books on the cultivation of Tropical fruits, and also on coffee raising. There are two works I would recommend, and all I know of at present, they are: "A history of the Vegetable Kingdom," by Wm. Rhind, (in which there is a long treatise on coffee,) and "The Tropical World," by Dr. G. Hartwig. These works from their large size and illustrations, are somewhat expensive. I presume they can be obtained on this coast most economically through the publishers of the RURAL, who are furnishing many valuable works on Horticulture which are not kept on sale by San Francisco book-sellers. I will now continue my notices of some more exotic fruits which are worth a trial in California, especially in the more southern counties. Litchi (*dimocarpus litchi*)—Longan (*dimocarpus longan*). In the south of China these fruits are quite common, particularly near Canton. I well remember eating the preserved or dried litchi brought to England in some of the China tea ships about the year 1820, and found it very sweet and pleasant to the taste. Both the above named fruits are very highly esteemed by the southern Chinese. The more northern provinces of China are too cold for their successful cultivation. They are supposed to be natives of the more southern provinces of the Empire. These nice and nutritious fruits have been introduced many years back into a large portion of country in the East Indies. They are ripened in many of the hot-houses in Europe by those who are interested in curious or beautiful tropical plants. They are both ornamental in foliage, and the fruit is often ripened in England in the conservatories, and considered good, although not so perfect in flavor as in their more natural habitat. It is stated that John Knight, Esq., of Lee Castle, near Kidderminster, England, presented the London Horticultural Society with some of this fruit that had ripened in his hot-house as early as 1816, and it was found to be as good as that which is produced in China. It was introduced for the first time in England in 1786; the longan had been imported some years before that.

Rhind in his "History of the Vegetable Kingdom," states, that, "The trees on which these fruits are produced have a considerable resemblance to each other; are in fact so much alike, that they are distinguished only by the flowers of the litchi being without petals, while those of the longan have eight; and the fruit of the litchi being larger, and generally of a red color, while that of the longan is always brown. They are moderately-sized trees, with brown bark, which is very bright in the twigs. The leaves are large, have some resemblance to those of the laurel, are placed alternate, and hang very gracefully. The fruit is produced in bunches, which are pendent from the extremities of the twigs; and there is a considerable number of fruit in the bunches, not close together like grapes, but on stalks, the principal ones from 6 inches to a foot in length; while those of the individual fruit are from one inch to two."

There appear to be several varieties of both kinds in their native regions. Some sorts ripen before the others. Their forms and qualities also vary. All the kinds are covered by tough, thin, leathery coats, within which is the pulp and in the inside of that a single brown seed. The pulp is without much color, nearly transparent, pretty sweet, and of extremely grateful, but peculiar flavor. I have seen these trees, or some of the species growing in the nurseries at Oakland where they have flowered, but, probably, have no fruit. I should judge that they would fruit well about Los Angeles, or still farther north, if they have not already done so. I should like to hear of these valuable fruits being well tried in southern California, where if distant from markets they could be dried like figs, and would command most likely as high a price, and at first a higher one, as they

would be novel and curious to the public, as pomegranates are now, in a great degree.

The Mango (*mangifera indica*) is a wide-spreading tree, having glossy leaves half a foot long, rather resinous in smell. Flowers white. Fruit rather like a stumpy cucumber, somewhat thick and a little like a pear, only thick at both ends. Its size is like that of a medium-sized pear. Some of the mango fruits, and there are many kinds, are of a vivid green color, while others are partly yellow, or rather of an orange hue. The flavor of a good well-ripened specimen is said to be quite delicious. I have seen a few specimens of half-ripe fruit of the mango on the stands in this city. Its skin is thin, and the pulp within it is melting and most refreshing, and cooling. In the middle of the grateful pulp is a good-sized stone like that of a peach, which clings to the flesh. This fine fruit is found in Brazil, and is a native of the East and West Indies. In Java the mango *dodol* is the largest variety, weighing more than two pounds, about the size of a middling shaddock.

The fruit of the mango perishes so quickly that it cannot be brought any great distance, and only then in nearly an entirely green condition. It is in this state often pickled.

I believe it flourishes well in some of the Hawaii islands, and is sometimes brought here from thence; but the only way to have it good and ripe in this State, would be to grow the tree in the more southern portions of the country. I have not heard of its being there; but it is not improbable that it has been tried, and may be now growing there.

The Japanese Pear.

Since intelligent Japanese students and travelers have been in a measure attracting the notice of the American press by their eagerness to acquire useful information and improve their own condition in art, letters, and culture of all kinds, by studying the theories and inventions of the American people, we, in turn, have learned many useful things from them.

They have given us many useful hints in the way of floriculture and ornamental shrubs—very many varieties of flowering vines and plants now found in our gardens and conservatories have been introduced by the Japanese into this country. The eastern ruralists and nurserymen are publishing various accounts now of the Japanese pear, which seems to have attracted their admiration and attention. Several of our exchanges have devoted considerable space to the notice of this new and very beautiful tree; the following from the Ohio *Farmer* gives a partial description of it: "The Japanese pear is said to be worth growing for the sake of its foliage. The leaves are as large as one's hand, and of a fine glossy green, which in autumn turns to a brilliant scarlet." Upon enquiry of an intelligent Japanese in this city, we are told that one or two efforts to introduce it have been made by Chinese gardeners—but to no great extent nor with much success—although the climate is well adapted to its growth.

A BROOKLYN CHERRY TREE.—By the Brooklyn *Journal* we are informed that Adam Falbrath of that town has a cherry tree which has been in bloom for the past three weeks. We are inclined to think that cherry tree has taken a "new departure" from the laws and principles of the cherry tree party; it evidently don't intend to be found this winter among the "withered leaves." Let us know what it concludes to do next.

RUSSIAN VS. SIBERIAN APPLES.—Dr. C. Andrews, Marengo, Ill., comparing the Russian with the Siberian apples as they have been tested in this country, says: "All the Russian apples have not proved hardy. None but the Oldenburgh has stood the test as far north as St. Paul for any considerable number of years, and some of the most experienced nurserymen of that vicinity do not regard even that as wholly reliable there." On the contrary, he thinks all evidence goes to show the perfect hardiness of the Siberian family. Hundreds of new seedlings of this species are constantly coming into fruit, some of them extreme late keepers, and all accounts report them entirely hardy as far north as they have been tried."

RAISIN CULTURE.

EDITORS PRESS:—I write to you to know something about raisin culture in this State. I understand that the foothills are considered by many as the best locality for that business. Do early rains ever hinder the process of curing on the vines; if so, what means can be cheaply and successfully used to obviate this difficulty? At what height in the Sierras is the limit reached of raisin culture? Can they be grown as high as Placerville; if not, how much below? Please name some well-known town as the limit. At what height do they do best? Are there any other natural obstacles in the way of climate besides early rain? What portion of the State do you consider superior to the foothills? Is there any equal? What variety or varieties of grape are preferred for raisin making? Where could these be procured in sufficient quantities to set out 25 acres? Has the business been a profitable one to those engaged in it? J. E. C. San Francisco, Nov. 29th.

In answer to the above, we would say our correspondent is rightly informed that the foothills, as a location, is the best in the State for raisin culture. There is a strip of country, say about twenty miles wide, on the western slope of the Sierras, and extending from Butte county to the southern extremity of the State, that may be set down as generally well adapted to the growth of the raisin grape, and to the drying or curing of the fruit. Along the western slope of the Coast Range, stretching through the State from the same points north and south, but narrower in extent, is another strip equally as well adapted to the same business, with the exception of some points where the winds and fogs from the ocean sweep through a depression or cañon. In designating this strip by towns, we would name Folsom as about the lower or western boundary, and Coloma as about the higher or eastern boundary.

This strip or belt of country produces a richer and dryer grape, and a grape of a better pulp than is produced higher up the mountains, or lower down, towards or in the valleys. The reason is that the atmosphere in this belt is more even, as between day and night, than that of a greater or less altitude. When you get above Coloma, the dews continue later in the spring and commence earlier in the fall, and are more abundant. The same is true as to rain. When you come into the valley or brow about the altitude of Folsom, you are more or less within the influence of the sea breeze; the atmosphere is damper even in the daytime, and more so in the night. The south winds, that sweep up the valleys in the afternoons, come more or less charged with humidity from the sea, and as the sun goes down, this humidity is precipitated to the earth as dew. Grapes are affected by the condition of the atmosphere in which they are grown, and hence, it is easy to see why grapes grown either above or below the belt of country named would contain more water and less pulp and saccharine matter, than those grown within that belt.

Curing Grapes.

The facts which we have named above, as indicative of the best location for growing raisin grapes, point with equal force to the same locality as the best for drying or curing them.

A dry atmosphere, both day and night, and a uniform heat, as near as may be, are the circumstances or conditions favorable to curing grapes. In the belt of country we have indicated there is no dew of any account from July to October to dampen or check drying fruit, and except for the purpose of retaining a greater degree of heat during the night, a cover at any time would be unnecessary. In the latter part of summer, the surface of the earth in this part of the State becomes quite warm, and the atmosphere, close to or on the earth, retains that heat at a greater degree during the night than at a greater elevation;

hence, in drying fruit of any kind, the nearer the ground they are placed, the more rapidly they will dry, and particularly in the case of raisins, the hotter and higher flavored they will be. In the European raisin-producing countries, they make a sort of adobe floor on the ground looking to the south, with adobe partitions running north and south, say a foot high, and head walls at the upper and lower ends. Upon this floor the bunches of grapes are laid, and a canvas or cloth awning is arranged, with a roller like an awning, to roll up in the daytime and down in the night. This awning is there necessary to keep off the dews, and answer, at the same time, to keep in the heat that accumulates during the day. For the former purpose, it would not be necessary here; but for the latter, while it would not be a necessity, yet it would add very much to the rapidity and perfection of the work, and the expense would be but trifling.

While the grapes are thus exposed to the action of the sun, they are turned over in the bunch each day, and as soon as any bunches are sufficiently dried, they are removed from the drying place and packed in boxes for the market. This latter practice becomes necessary to prevent any from becoming too dry. Like figs, raisins are ruined or very much injured by being over-dried, and like figs, they go through a mellowing process after being packed; and to secure the perfection of this last process, they must be packed in just the right condition. To be able to judge of this condition, some experience and skill is necessary, but this skill is soon acquired by experiment and observation.

Some people have an idea that it is necessary to dip the grapes in a lye or other composition before putting them to dry, but this is a mistake. They should be picked from the vines when very ripe, and placed immediately in the hot sun, to cure in the natural state. They require the influence of the sun to give them the proper raisin color, as the best raisin-grapes are of the white or green varieties.

Varieties of Grapes for Raisin-making.

There are a number of kinds of grapes used for raisin-making. In this State, the Malaga, Muscatelle, the white Muscat of Alexandria, the white Malaga, the Fahir Zagos, the Flame Tokay, and various other kinds, have been used experimentally; but the three first-named have been found the best, and their excellence is in the order in which they are named. The two first-named are richer and higher-flavored than the white Malaga, and make a higher-flavored raisin, while the first-named is superior to the second, from the fact that its skin is a little more delicate or tender, and it is a little earlier in ripening, thus allowing the work of curing to commence sooner in the season.

Profits of Raisin Culture.

We have no data or figures by which we can give the financial results of any experiments in this business in this State; but we would say that in a country where the vine produces so certainly and so abundantly as here, where there has never yet appeared any insect or other enemy to endanger to any extent the crop, and where the climate is so favorable for securing in the fruit the requisite properties for curing it so economically, and where there can be no competition for supplying the ever-present and extensive demand, except at so great a distance from us, it seems to us that raisin culture, properly conducted, can be made one of the most remunerative of industries. In confirmation of this view, Mr. B. N. Bugby, who has made and sold more California raisins than any other man, and, than perhaps all others in the State, says, in a late statement to the State Board of Agriculture, that he is so well satisfied on this point of profit, that if his wine and brandy did not employ all his capital and time, he would at once enter upon the culture and manufacture of raisins upon a large scale. There are a plenty of cuttings of the best varieties in the State. Among those who, we know, have them, we may name Mr. Bugby, J. R. Nickerson, Robert Chalmers, and many others.

POPULAR LECTURES.

THE ATMOSPHERE.

[Prof. Ez. S. Carr before the Mechanic Arts College, Mechanics' Institute Hall, S. F. Reported expressly for the Press.]

LECTURE I. Dec. 9.—The Hall of the Mechanics' Institute was well filled last Saturday evening, by those who had enrolled themselves as students at large, of the Mechanic Arts College.

At 7½ o'clock President Hallidie stated that the course would consist of twenty lectures, governed by the same general rules that were in force during the last course. The hall would be opened at 7 o'clock, and the lectures commence promptly at half-past seven, at which time it was necessary that all students should be in their places. Absence from two consecutive lectures, or three in all, would work a forfeiture of the seat for the season, and that a limited number of visitors' tickets were in the hands of the Regents and the Secretary of the Institute. He said also that the regular seats of the class would be assigned at the next lecture. He then introduced Professor Carr of the University, who proceeded to deliver

The Introductory Lecture.

He began by saying that knowledge was a true acquaintance with things. Science was organized knowledge, and education organized common sense; and these facts would be the key-notes of his lectures. He alluded to the fact that a great many people suffered from mental dyspepsia, because they stuffed themselves with other people's ideas. It was a prevalent error to look too far off for our knowledge—to investigate the geography of the moon while neglecting that of our country. And the Professor stated in his lectures he would confine his class to things at home, and would begin with the most common and familiar of all things, the Atmosphere. He then, by the aid of large charts, explained the component parts of the air we breathe, and proceeded to speak more especially in the lecture of the evening of the qualities of the two principal ingredients, oxygen and nitrogen.

He said that it had been announced that the lectures would be illustrated with the University apparatus; that announcement he said was true. Placing his hands on an ordinary wash tub, he remarked, "this is one of the most useful articles in the collection," and stated that the experiment he intended to present that evening he would show, could be performed with the simplest materials. The table of component parts of the atmosphere was first referred to set out on a printed chart.

| | | |
|--------------------|------------|--------------------------|
| Oxygen..... | 20.61..... | 1,233,010,000,000 tons. |
| Nitrogen..... | 77.95..... | 3,994,593,000,500 tons. |
| Carbonic Acid..... | .04..... | 5,287,000,000,000 tons. |
| Aqueous Vapor..... | 1.40..... | 54,460,000,000,000 tons. |

100.00.....5,287,350,000,000 tons.

He then proceeded to the first experiment which consisted in obtaining oxygen gas. In performing the same he made use of the following language.

Oxygen

may be obtained in a number of ways. The simplest manner of obtaining this gas is to separate it from solid bodies. I have here common chlorate of potash which contains over one-third oxygen. By mixing this with black oxide of manganese in this small tube, and gradually heating the mixture, oxygen is set free as a gas. In order to ascertain if oxygen has been produced, I take a common piece of splintered wood, set it on fire, then extinguish the flame, and insert the glowing end in the tube. If oxygen exists the spark will immediately brighten.

He here performed the experiment for the benefit of those present, and satisfactorily. In order to give you a better idea of how oxygen may be obtained in larger quantities, I would direct your attention to the retort before me in which is pre-

pared the mixture of chlorate of potash and black oxide of manganese. Beneath the retort I have adjusted a small lamp to be used in heating the mixture. A tube is attached to the retort which connects it with the water contained in the tub. Within the tub, about three inches from the top of it, I have adjusted shelving, on which to place these jars which are for the purpose of containing the oxygen gas as it is evolved from the mixture in the retort. The shelving is immersed in water about one inch. I place the mouth of the jar over the tubing connected with the retort, the water surrounding the outlet of the jar prevents the escape of the oxygen when it comes off from the mixture. In a short time the jar is filled and more may be obtained if desired. I now use the same means of ascertaining the presence of oxygen that I did before.

By introducing this steel watch spring, one end of which I previously heat by igniting some sulphur placed there in the form of a match. Combustion takes place and the steel wire is seen to burn with even greater brilliancy than more combustible matter, throwing off sparks in every direction.

All the Professor's remarks were illustrated with satisfactory experiments. He then proceeded to say: No element in nature has so strong an affinity for other bodies as oxygen. Oxygen is thus a great source of power both in heat and light; the decay of animal and vegetable substances is caused by it, for if we would stop decay, we must exclude atmospheric air. Breathing, as is known to all, is the essence of vitality. Our lungs operate as the bellows; when oxygen traverses every part of our bodies which is affected by the circulation of the blood, the temperature of the body necessary to existence is kept up by oxygen meeting and uniting with certain bodies and burning them. The motion of the muscles, activity of the brain, each vital movement, is directed by the union of oxygen with other elements.

Direct observation has proven that oxygen makes up more than one-half of the entire globe, eight-ninths of the ocean, and one-fifth of the atmosphere; of all animals, three-fourths; all mineral matter, one half; and all vegetable matter, four-fifths. It has a powerful effect in destroying organic bodies. Were oxygen alone in the air, it would act much more energetically than under the present combination. The process of combustion and decay would be very rapid, and that of life would go on with greater energy.

Consumption of Oxygen.

An adult consumes daily between one and two pounds of oxygen. Say that the population of the world be rated at 1,000,000,000. To each person allow one pound per day. Calculate the amount consumed in other ways in an approximate manner. Upon this basis we will find that the daily consumption will amount to the following proportions: man, 1,000,000,000; animals, 2,000,000,000; decay, 4,000,000,000 pounds, making in all about 8,000,000,000 pounds, or 3,571,428 tons of oxygen consumed daily. Suppose that the amount of oxygen at present in the atmosphere should remain without increase upon the hypothesis of calculation just stated by me, it would take 945,098 years for all the oxygen of the atmosphere to be consumed.

Supply of Oxygen.

The prime source or disease is bad ventilation. When sickness is at our doors, Providence is blamed as the cause. When a mother sees her child laid low in illness she finds fault with Providence for her affliction. This is all a mistake. Providence has nothing to do with sickness, it is the neglect of Nature's laws that entails disease and consequent death. Ventilate your rooms. Ventilate your public halls, your places of amusement. Eat proper food; take judicious exercise. All these are among the first rules of the laws of Nature. If these rules are adopted disease will not be so frequently complained of. If a man would understand how long he could exist in his room with safety, being ill ventilated he may take the dimensions of his room, calculate the amount of air it would contain and what length of time it would take to consume the oxygen in it.

We cannot reduce the amount of oxygen to more than 4 or 5 per cent. without endangering the life of the higher order of animals. If there were no means to provide for the restoration of oxygen to the air the existence of man on the earth would

be rendered impossible in a short time. Another common element of the atmosphere is

Nitrogen.

This is a colorless, tasteless, and odorless gaseous body, the same as was said of oxygen. In order to obtain nitrogen for experimental purposes, we take a piece of phosphorus, burn it under an inverted jar placed over a water bath, in order to prevent fresh air from entering. The phosphorus in being so consumed, will take up nearly all the oxygen present and we shall have remaining principally nitrogen. You notice a white vapor is apparent after the phosphorus is burnt. This is phosphorus acid gas, the combination of oxygen and phosphorus. By shaking the water here present in the jar, it will be absorbed, leaving nitrogen alone.

Its effect is the opposite of that of oxygen. It is a non-supporter of combustion as will be made evident by taking a lighted taper and inserting the same into the nitrogen jar. We find that the flame is immediately extinguished. Nitrogen presents none of the activity of oxygen, on the contrary it is an indifferent and inert body. It acts as the balancing power to oxygen. It is a wise provision of the Almighty that a happy medium exists in the combination of the gases as presented to you by me in the beginning of my lecture.

USEFUL INFORMATION.

The Insect Nebula.

One has no idea, says Mr. Beecher, of the populousness of spaces that seem empty to ordinary inspection. But at certain hours of the day, when the sun lies in the right direction, if one can get the range and angle of a section of air against a good background, so that whatever flies in it will reflect the light to his eye, he will see such swarms of things, large and small, as will enlarge his ideas of the sum of being. And what wind and bottom! A swarm of midges will play the game of insect nebula to perfection, whirling around some imaginary sun, as if swept by some force external to themselves, and not by their own tiny wings. There will be anywhere from a thousand to ten thousand in a group. They evidently have a common sympathy in motion. Although the finest ear cannot detect the sound, yet they either see, or hear, and whirl to some recognized signal—rising, falling, whirling to the right, opening out into line as if sent to skirmish; and whirling back again in an instant, and, rallying round and round their centre, they keep up this intense motion for hours together. The expenditure of vital force in these active little atoms must be enormous. But these are single tribes. The air is full of others of different nature and habits, whose varieties seem to increase as you look. All love heat. August is their crown month. Even the early days of September make a difference. The thermometer is up in the eighties, but the flies have grown sober. Only at midday are they themselves again. At night and in the morning they are stiff, and no doubt, if we understood their language, we should hear them complaining of the infirmities of old age, and lamenting the shortness of life.

A Word About the Moon.

Every one is familiar with the singular phenomenon known as the "new moon carrying the old moon in her arms," when, in addition to the slender crescent, the whole disc is more or less distinctly visible a few days after the new moon; the same appearance, or "the old moon nursing the new," presents itself in like manner in the waning moon, when she rises a few hours before the sun; but we fear there are few who shake off dull sleep to see it. This is what is called the *luniere cendrée*, or ashlight of the moon. Its appearance used to be taken as an indication that the moon was phosphorescent, or possessed some light of her own, independent of that she receives from the sun. Now, however, it is satisfactorily proved to arise from the sunlight reflected from the earth upon the dark moon; for it must be remembered that the earth is to the moon what the moon is to the earth, a reflector of the sun's light; and when it is new moon to the earth it is full earth to the moon, and *vice versa*, and thus the opaque moon becomes illuminated by earthlight—to use a term analogous to moonlight; but on account of the great size of the earth compared to the moon, this light is 14 times as bright as our moonlight, and thus occasional brilliancy of this "reflection of a reflection" is accounted for.

GOOD HEALTH.

Heart Sounds.

The action of the heart is remarkable for its rhythmical character, each of its four cavities exhibiting a succession of contractions and dilatations in the most perfect rhythm. It will be remembered that the heart contains two auricles and ventricles, each side having no communication with the other; both ventricles contract together while both auricles are dilating; the contraction of the ventricles corresponds with the projection of the blood into the arteries causing the pulse; the dilatation of the ventricles corresponds with the collapse of the arteries. The contraction of the ventricles takes place during the dilatation of the auricles, with a brief interval of repose; the duration of the contraction is twice that of the dilatation of the cavities.

These contractions and dilatations are accompanied by sounds, caused, principally, by the flapping of the valves at the openings of the ventricles, the aorta, and pulmonary artery. The blood, in passing from the auricles to ventricles, produces no sound; when the ventricles simultaneously contract, the valves between them and the auricles flap back to prevent a backward flow; this flapping, with the muscular contraction of the fibres, and the rush of the blood along the irregular surface of the cavities and through the orifices of the great vessels, causes the first sound; the second is produced by the shutting of the valves at the entrance of the aorta and pulmonary artery, during the dilatation of the ventricles. The capacity of each of the cavities is about two ounces.

There is a noteworthy difference between the perfection of the closure of the valves between the auricles and ventricles on the two sides of the heart; on the left side they close perfectly; on the right they do not, when the ventricle is distended. Many causes tend to produce an accumulation of the blood in the venous system, and consequently in the right side of the heart (as any obstruction to the circulation in the lung—cold, compression of the veins, etc.) which is a dangerous condition, from the liability to sudden death; in case of such distention, the blood is permitted to flow back through these valves, not only into the right auricle, but into the large veins; this condition is one of the few in which venesection will relieve impending death from suffocation and pulmonary congestion—*Good Health*.

SINGULAR CASE OF SUNSTROKE.—The Holly (N. Y.) *Standard*, some time since related a singular case of sun-stroke which had then occurred in that town. While Daniel S. Waite was riding his mowing machine on his place between that village and the Ridge, a load of furniture passed along the road, on which was a man holding a large mirror. The sun's rays glancing on the mirror were reflected so that they struck Mr. Waite, who fell senseless from his machine on the outside. He afterwards compared the effect to that of a blow powerful enough to knock him from his seat. The lines were passed around his neck, and the team stopped when he fell. After a time he came to himself and climbed partially upon the machine, and the team started and carried him to the road, where he again fell off and relapsed into a state of insensibility. He was discovered in that condition shortly afterwards and conveyed to his home. His life was for some time despaired of, but he has since recovered.

CURE OF STAMMERING.—The effectual cure mainly depends upon the determination of the sufferer to carry out the following rule: Keep the teeth close together, and before attempting to speak, inspire deeply; then give time for quiet utterance, and after a very slight practice the hesitation will be relieved. No spasmodic action of the lower jaw must be permitted to separate the teeth when speaking. This plan regularly carried out for six months, cured me when twenty years old. I was painfully bad, both to myself and others. Without a determination to follow out the plan, it is of no use attempting it.—*Ex.*

SORE MOUTH AND TONGUE.—Three drachms of borax, two of sugar of lead, half an ounce of alum, and one pint of strong sage tea. Use as a wash.

WHEN AFFECTED BY FOUL AIR IN DESCENDING WELLS.—Throw down unslacked lime, then several pails of water before venturing to go down.



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SAN FRANCISCO:
Saturday, Dec. 16, 1871.

Our Weekly Crop.

In looking after the interests of the "California Trade with Montana" our reporter has secured a photograph of a remarkable member of the animal kingdom in that Territory, known as the "Mountain Goat," which our artist has enabled us to add to our gallery of curiosities. We have also discovered a new member of the vegetable kingdom—"A New California Pine," which we reproduce, pictorially, and which will be found valuable for ornamental purposes.

Our library table, this week, is filled as usual with a large mass of correspondence, only a part of which we now have time to read. "Notes of Travel in Santa Clara" are followed by some "Practical Experience in Cultivating Blackberries." Some valuable information is also given about "Raisin Culture," followed by our usual hints on various branches of "Horticulture."

Our "Agricultural Notes" will be found full and comprehensive, and our miscellaneous department is well filled with valuable information. The "Santa Cruz Farmers' Club" sends us some valuable hints about "Grape Culture Near the Coast," which forms a very good prelude to some facts about "The First Vineyard in Los Angeles." Our horsemen will also find here some interesting information about the Pedigree of the horse "Geo. M. Patchou, Jr." The first of a series of "Popular Lectures" furnishing some interesting facts about "The Atmosphere," have crowded our usual "Good Health" into a smaller space than common.

Passing on upon the farms we gather some practical hints about "Saving the Bones," "Alfalfa," "Irrigation," "The Best Fertilizers for Wheat," etc. Our curiosity hunter has succeeded in securing still another novelty, which has very much the appearance of a fancy "Pulpit." It was found in the "Alabaster Cave," of El Dorado county, from which we have transferred it as an ornamental appendage to our rural home.

And now with a brief visit to the "Home Circle," and a look into the "Domestic Economy" of the same, we take a parting glass of—"Water," and say good bye to the week.

THE Acclimatizing Society held a meeting on Saturday evening, and appointed a committee to prepare a game law for the consideration of the Legislature. The law is intended for the protection of native and imported game from destruction by reckless "pot hunters."

The Society has had complete success in its acclimatizing experiments with trout, and will this winter introduce the black bass and several varieties of game birds into the State. Several thousand dollars have been expended in arranging the ponds and hatching houses, at the San Pablo ranch, fifteen miles from this city, and the enterprise never had a more promising outlook than at present.

ON FILE.—Letter from Hollister in relation to Gypsum; Letter from "B. M.;" "Washing Horses' Legs;" "Public Benefactors."

SAVE THE BONES.

The complete success of the two beet sugar factories now in operation in this State, and the certainty that others will be erected in numerous localities where beets can be produced in quantities sufficient to supply them, and the fact that every well managed beet sugar factory is also a refinery of crude, cane sugars, during the interval between the closing of the sugar campaign in March and its commencement again in September, clearly fore-shadows the future want of a much larger quantity of bone-black or animal charcoal for sugar refining purposes than has ever before been found necessary on this coast.

This fact in connection with the value and demand for bones for other purposes than bone-black, will soon make the preservation and collection of bones a business of no mean importance, and will command the attention of more persons than are now in the secret of the profits derived from the bone-collecting business.

Having instituted the necessary inquiry in relation to the value of the bones of animals for commercial purposes, in the cities of New York and Philadelphia, where are found the largest sugar refineries in the United States, the result of our inquiry is, that in value, the thigh bones of the bullock rank first, being the only ones in the ox fit for turners' use, and are mostly manufactured into tooth brush handles; these bones are worth from ten to twelve cents each.

The jaw bones rank next, and are worth from fifteen to eighteen dollars per thousand; these are principally made into buttons. The "short" bones, as they are termed, such as leave the family table, are worth sixty cents a bushel. The foreleg and hoof are generally bought by makers of glue, and when they have done with them are sold to other bone dealers at two cents a pound.

The hoofs are sold at \$40 per ton, to be made into horn buttons and Prussian blue. Horse hoofs and sheep hoofs and horns, are sold at \$15 per ton.

All classes of bones as they are collected are first carried to the factory together; here the thigh and jaw bones are sawn so as to admit of the easy extraction of marrow. They are then thrown into a vast cauldron and boiled until all the marrow and fatty substances attached to them are thoroughly extracted.

The fat is then skimmed off and placed in coolers, and the bones taken out and subjected to assortment. The thigh bones are placed in one heap for the turners; the jaw and other bones suitable for buttons are placed in a second pile; and the bones suitable for bone-black are the next of value, and the remainder are ground up for phosphates and manures.

Bones after conversion into bone-black, are worth in New York from two and a half to three and a half cents a pound. To judge of the amount of the article used in that city alone, in the twelve immense sugar refineries there, it is only necessary to state, that the "Stuart's" and the "Grocer's" refineries pay annually to the bone-black makers the sum of \$40,000 each, for bone-black.

All the refuse of the bones is made into phosphate and manure, which sells at fifty cents a bushel at the factory. There are six considerable bone boiling establishments in the city and suburbs, a single one of which has sold in a single year, of soap fat alone, as shown by an examination of its books, the sum of \$22,600; a single soap maker paying as high as \$16,000 for the amount required in his establishment for a single year.

It would seem from the foregoing statement, which is reliable in every particular, that the real value of bones as a commercial commodity is entirely underestimated in many portions of our State, and

particularly on some of the great southern cattle ranches, where the bones of thousands of animals lie to this day, from the effects of starvation, bleaching and ungathered, and though of no use to the soap maker would make bone-black.

ALFALFA AGAIN.

EDS. PRESS:—Having been a reader of your journal for about two months, and wishing to properly test the utility of alfalfa in this climate, I would be glad to see in your columns the experience of practical men in raising it, the best time of year to sow, the kind of soil that suits it best, wet or dry, sandy or clayey, the quantity of seed per acre, with any other information, you can give on the subject, as a number have tried it here and failed. I sowed a small piece which has done very well up to this time, except that it did not seed. It blossomed and then the blossoms dried up, without forming any seed, but it is growing very fine since the fall rains began, and makes good fall pasture; it was sowed too late last spring to get a good start before the dry weather set in, which is probably the reason it did not seed.

THOS. SMITH.

Rosebury, Oregon, Nov. 20th, 1871.

In answer to the above, we give below, extracts from a letter written by Nicholas Wyckoff, of Yolo county, one of the earliest, most extensive and successful cultivators of this valuable grass in the State.

It is well to fallow the ground when possible, and having the ground in fine tilth it may be sown before the rains in the fall with good success, if the first rain is abundant and warm and then followed by a second rain to prevent its drying before taking root. There is poor promise here of succeeding in that way this season as it is getting so late without rain that when it comes it may be too cold to germinate well. The best time here has proven to be in February, when the cold weather is usually over and the ground is becoming warm; it starts then and grows rapidly. Although it grows best in warm soil and warm weather, it stands quite a measure of frost even in a young stage.

Plow deep and thorough, let it remain, say, until the last of January, then put the ground in fine tilth, sow from fifteen to twenty pounds to the acre and brush or roll after sowing, but do not harrow as it places the seed too deep. It germinates on or near the surface. Do not sow anything with it; it has been tried repeatedly in this county; it is but an injury. I say this, notwithstanding an article in the Sacramento Union of Saturday, the 11th inst., advises the sowing "lightly some grain" to protect it for a time. It is a benefit to graze it moderately, as soon as the growth is sufficient and the rains are over. Horses and mules will, if stunted, paw after the root and hogs will entirely destroy it. Cows are the best stock to graze it the first year.

It yields from six to eleven tons per acre per annum. I cut mine this year three times. It is not equal to wild oats for hay, but with free use with grain it is sufficient. For milch cows it is superior to any other hay; it excites the secretions. To make good hay it should have been in bloom at least ten days before cutting.

When it is grazed by cattle and sheep it sometimes gives them the "hooven," sometimes called the colic. They swell up quickly and burst within, and death ensues. Cattle are only liable to it when the alfalfa is making a rapid growth in the spring and they fill themselves quickly. When it is grazed closely it does not occur. It should receive attention and be cultivated everywhere throughout California, where a suitable soil may be found. Generally a good soil for wheat is a good soil for alfalfa. All alluvials are good; also muddy loams; dry, fertile lands that may be irrigated are still better.

We would add that the probable reason why our correspondent's alfalfa did not seed, is that he expected the first crop or growth of the season to seed. The first or spring crop does not generally fill well, either of this clover or any other. If the field be pastured, say till July, or one or two crops of hay be taken from it, then if allowed to grow and mature it will generally make a good crop of seed.

We can see no reason why alfalfa should not do as well in any part of Oregon as in California. It is a native of Switzerland, and does well in our Sierra Nevada mountains as high up as Placerville, also in the

State of Nevada and Utah Territory. There is no doubt that it is the most valuable grass for California that has ever been introduced. It is the only grass that will grow through our dry summers and produce constant green feed without irrigation. We are assured by those who have pastured sheep on it, that one acre of good land well seeded to alfalfa, will keep forty sheep in good condition the year round; that sheep kept on this grass produce a better quality of wool than those which are pastured on the native grasses; the staple of the former being uniform and of vigorous growth while that of the latter has weak places in it, in consequence of a check in its growth corresponding with the check in the growth of the grass during the dry season. We are glad to learn that many of our sheep men are preparing to seed portions of their ranges, this season, with alfalfa.

IRRIGATION.

The scant rainfall of the past two or three years, with the crops diminishing each year—that diminution, last year, culminating in an almost total failure of the wheat crop throughout the larger portion of the San Joaquin valley, and in many other portions of the State,—has drawn attention to the necessity for some general system of irrigation.

One of the earliest and most extensive enterprises in this direction is the San Joaquin Valley Water Co., whose object embraces navigation as well as irrigation. The company is composed of men well known for their enterprise and wealth. It started with the determination to accomplish its object, if that end can be obtained by men and money. It has recently secured the services of Mr. Brereton, who comes highly endorsed for knowledge and practical experience as a hydraulic engineer in India.

The organization of the above Company was, as usual in similar cases, soon followed by the formation of several other irrigation schemes involving in the aggregate, on paper, to about \$60,000,000, which is a large amount of money to embark in a comparatively untried experiment—at least on this coast, and it is important to the true interests of the State that there should be no failure. This suggestion will be appreciated alike by those who subscribe their capital to promote any of these schemes, and those who, in anticipation of facilities to irrigate, may be tempted to purchase and settle down upon lands which, in the event of failure, will be comparatively worthless for farming purposes.

The subject of irrigation in the United States is a comparatively new one, and consequently we have to look abroad for data for our guidance. When we have mastered the A. B. C. of the question we shall, no doubt, catch up with, if not go ahead of our teachers. But to do that we must begin, and if we are wise we shall adopt the homely but expressive motto of Davy Crockett: "Firat be sure you are right, then go ahead."

To show the necessity for precaution in enterprises of this kind, we may remark that the government of Victoria, Australia, after expending a large sum of money in the construction of works for the supply of the gold fields of Castlemaine and Sandhurst and the town of Geelong, without adequate results, resolved, before making further outlay, to take council from the best hydraulic engineering skill to be obtained. With that object, they applied to the government of India, who recommended R. H. Sankey, Lieut. Col. R. E., and gave him permission to visit Victoria, where he arrived last spring, made the examination, and submitted his report to the government of Victoria; visited South Australia for a similar object, and then

returned to India within six months of his arrival.

That report is before us, and we propose to draw upon it, from time to time, for the benefit of our readers. Col. Sankey, in his report, gives a good illustration of the wildness with which some schemes are projected. "The Grand Victorian North-western Canal Company have issued a prospectus, from which it appears they propose to irrigate and bring under profitable and complete settlement a belt of country containing 6,000,000 acres. In addition to catching up and passing on the contents of various rivers, they propose to construct reservoirs at intervals along the route, provided with full and sufficient steam-pumping power to command a supply of water in the driest season from subterranean sources, which everywhere underlie the vast plains. The aggregate length of the canal is to be 500 miles; width at top, 60 feet; slope, 2 to 1; depth, 10 feet; and fall per mile, 9 inches."

"The promoters do not appear to realize the grand proportions of the undertaking, namely, the size of the canal. In rice irrigation only about 40 acres can be properly irrigated per cubic foot of discharge per second—200 acres of cereals may be irrigated with the same quantity. In Lombardy the extent watered is much less; but, under the Ganges canal, the limit of 180 acres has been reached. The limit for the large Soane canal, in upper India, is 133 acres. Taking the largest figures however (200 acres) it would need, in order to irrigate 6,000,000 acres, a delivery of 35,000 cubic feet, or 218,750 gallons (imperial?) per second, which would require a canal 790 feet wide, flowing 10 feet deep, with a fall of 9 inches per mile, or in other words, one having six times the capacity of the Ganges canal, which is by far the largest in the world."

Fertilizers for Wheat.

EDITORS PRESS:—I should like to be informed through your columns in regard to the best fertilizer for wheat. I want something that will strengthen the straw and, if possible, keep it from falling. Last season my wheat crop yielded over twenty sacks per acre; but if there had been more rain it would have fallen and been wasted. Gypsum and lime I suppose would be good.

J. L. B.

Centerville, Nov. 18, 1871.

It is difficult to answer our correspondent's question fully and intelligently without knowing something more with regard to the nature and conditions of the soil of his wheat lands. But with regard to the best fertilizer for wheat, under ordinary conditions, there can be no question. Nature teaches us that a virgin soil, rich in decomposed vegetable matter, invariably produces large crops of wheat, in climates and under atmospheric conditions favorable for the production of that cereal. Given a virgin soil, and little else save seed is needed to make a crop.

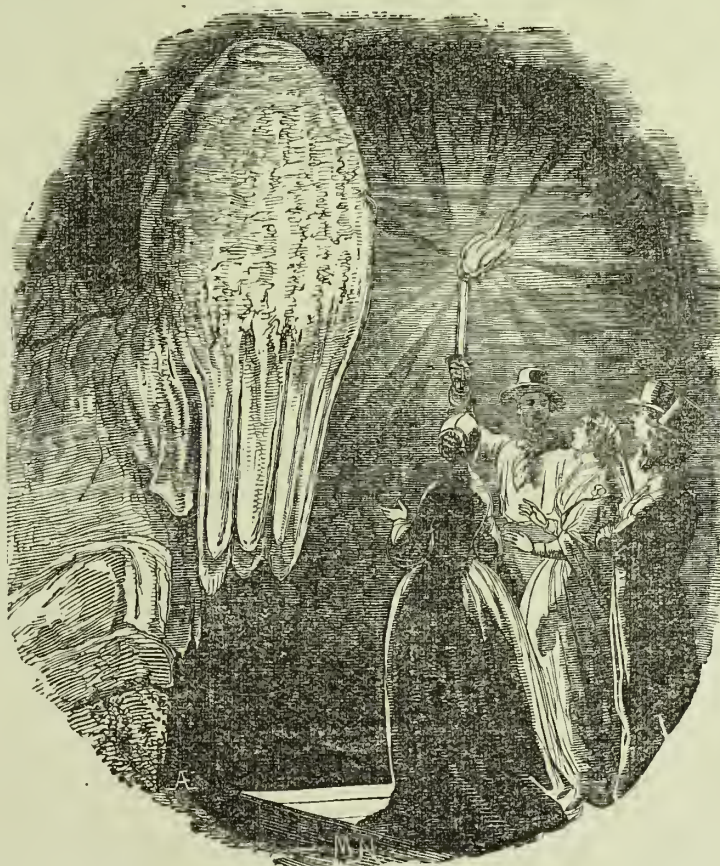
Now the chemists tell us that virgin soil is rich in organic matter, and comparatively poor in mineral elements—earthy salts. When therefore we grow wheat many years from the same soil, and endeavor to keep up its strength with chemical fertilizers alone, we over stimulate the constantly decreasing organic elements, force the soil beyond its strength, and our crops fail. The same result follows when we depend entirely upon the mineral elements naturally in the soil. The secret lies in the fact that those elements are inoperative without the presence of the acids, derivable chiefly from organic decay. Hence it often happens, as may be the case with the soil of our correspondent, that there may be an abundance instead of a lack of the mineral matter requisite to form a strong, healthy straw, but it is inactive for the want of the acids necessary to its utilization.

Now animal manures furnish the ele-

ments of fertilization in their largest and most effective condition—for they contain both the organic and mineral elements under the most favorable condition for their elimination as plant food. Next to animal manures we may class the plowing in of green crops, and, in addition to that, atmospheric fertilization.

In addition to a proper system of fertilization to mature the grain and straw, much may also be done in selecting the kind of wheat best suited to the condition of the soil. Mr. Geddes, good authority, says in this regard:—Mediterranean wheat is very weak in the straw, and on rich land lodges very badly. It is the wheat for poor land. Stiff-strawed wheat, on the contrary, is not adapted to poor land, but is too rich." He includes among the stiff-strawed varieties the Treadwell and Deihl. The red varieties are generally weak-strawed.

Land which produces weak straw should be thinly sowed. Thickly growing wheat has necessarily fine, limber straw. Salt sown, broadcast on land, to the extent of from one to three bushels to the acre, has



THE PULPIT, IN THE ALABASTER CAVE.

been recommended as a means of strengthening the straw. It doubtless acts as a solvent of the silica in the soil. To test the merits of thin sowing and of salt, etc., strips of ground, in the same field, of uniform condition might be treated in the various manners alluded to, and the results carefully noted. Every farmer should experiment, in something. A little experiment by each would require but little cost of money, time or labor; and if each would communicate the results of his experiments through the columns of the PRESS, the whole country might be made one great experimental farm, carried on for their information and advantages of all.

FINE MONTANA POTATO.—We have received, from Mr. Jno. S. Bartruff of Virginia City, Montana, a very large and fine potato, raised in that Territory. Judging from this specimen, we should think Montana, second to none, in producing this kind of vegetable. Mr. Bartruff writes: This potato was raised by me in the Model Garden, Virginia City, M. T. The seed was sent to me from the State of Virginia last spring, having been brought from Turkey in 1869. As I have had no name sent with it, I will call it the *Model Potato*.

THE PRINCE OF WALES.—The Prince of Wales has been at the point of death for several days, and there is but little prospect of his recovery.

Alabaster Cave.

Among the many natural wonders of California, which excite the admiration of strangers who visit our State, is the famous El Dorado county cave, which was discovered in 1860 by Mr. William Gwynn, whose workmen were engaged in quarrying stone to build a lime kiln. The cave or grotto is not of very great size, but its chief attraction consists in the beautiful shapes and colors of the alabaster, which form the sides and roof. When brilliantly lighted up with torches, a most magnificent scene is presented to the gaze of the visitor. In one portion of the cave, the alabaster has taken the form of a pulpit, as shown in the accompanying cut, taken from Hutching's "Scenes of Wonder and Curiosity in California."

Mr. Gwynn, in a letter to a friend, thus speaks of this natural curiosity: "On our first entrance, we descended about 15 feet to the centre of the room, which is 100 by 30 feet. At the north end there is a magnificent pulpit, in the Episcopal Church style. It is completed with beautiful

drapery of alabaster stalactites, of all colors, varying from white to pink red, which overhang the beholder. Immediately under the pulpit is a lake of water, extending an unknown distance. On arriving at the centre of the first room, we saw an entrance to an inner chamber still more splendid, 200 by 100 feet, with the most beautiful alabaster overhanging us in every possible shape." Several apartments were discovered and named, respectively, Crystal Chapel, Dungeon of Enchantment, Julia Bower, and Picture Gallery.

We received this week from Mr. R. S. Thompson, Hope Vineyard, near Napa, a very fine box of grapes of different varieties. Among them were the Vendell, Muscat of Alexandria, Flame Tokay, Grossdell Mas, and Black Morocco. On one bunch of Black Morocco's, weighing 5½ pounds, there were a number of grapes which averaged from 3¼ to 3½ inches in circumference. The grapes were delicious and in excellent condition for this season of the year.

FIRST REPORT OF THE STATE BOARD OF HEALTH. The State Board of Health has made its first biennial report in a volume of 190 pages. The questions of ventilation, sewerage, water supply, medical climatology, etc., are discussed in various papers.

BEST'S GRAIN SEPARATOR will be illustrated next week.

PATENTS & INVENTIONS.

Full List of U. S. Patents Issued to Pacific Coast Inventors.

(FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.)

FOR THE WEEK ENDING NOVEMBER 28.

ATTACHMENT FOR PLANERS.—Alonzo S. Hewlett, Sebastopol, Cal.

CAR-COUPLING.—Henry H. Morgan and Albert Gerry, San Francisco, Cal.

NOZZLE.—Thomas Watson, Nevada, Cal.

APPARATUS FOR AMALGAMATING GOLD IN TAILINGS.—Thomas A. Pratt, Marysville, Cal.

TRAMWAY SADDLE.—Joshua Clayton Robinson, Hamilton, Nev.

MOTIVE POWER AND BALANCE CAR.—Joseph Bayman, San Francisco, Cal.

FOR THE WEEK ENDING DECEMBER 5.

CHILD'S CARRIAGE.—Edwin Falkingham, San Francisco, Cal.

WASHING MACHINE.—Charles Larrabee, Haywood, Cal., assignor of three-fourths of his right to John Yule, same place.

ANIMAL TRAP.—Henry Polley, San Francisco, Cal., assignor to himself and Isaac Jessup, same place.

BUTTER-MOLD.—Anthony J. Derrick, Sheridan, Nevada.

MORTISING MACHINE.—Enoch J. Rowe, Eureka, Cal.

LAMP-BRACKET OR SUPPORT.—Henry Campbell, San Francisco, Cal.

LUBRICATOR.—William T. Garratt, San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

A Novel Publication.

We were shown a few days since a new idea in the way of advertising, consisting of a book, handsomely bound in blue and gold, containing about 100 pages of interesting matter comprising tales, sketches, poetry, witticisms, etc., chiefly by California authors. The remaining 200 pages are devoted to descriptions of the business of those who subscribe for the work, making it a sort of directory of the Pacific Coast; containing a few of the principal houses in each branch of business in the leading towns of California, Oregon, and Nevada.

The names of the towns appear in alphabetical order, as do also the kinds of business in each town. The names of the firms are arranged in the same way, enabling one to see at a glance who are the principal dry goods dealers, photographers, jewelers, manufacturers, etc., in any place on the coast.

The books are to be given away by the parties who have descriptions of their business in them. By paying \$50 for one page, 40 books are received to be distributed as the advertiser chooses. So every page thus disposed of will represent 40 copies in circulation.

The advertisements are to be descriptive of the business, in order to be made readable, and nothing in the nature of an ordinary advertisement will be inserted in the body of the work.

A FARMERS' CLUB FOR SACRAMENTO.—Some twenty farmers in the neighborhood of Sacramento held a preliminary meeting on Saturday of last week, at the rooms of the State Agricultural Society, and took the initiatory steps for organizing a "Farmers' Club" and adjourned until to-day. We received some remarks with regard to the plans and objects of the Association, from our Sacramento editor, which are unavoidably crowded out to-day, but will appear in connection with our report of the further proceedings which will be had to-day.

The Deer Lodge Northwest reports a fall of snow in the mountains unprecedented since 1861. It is reported that numbers of stock belonging to transportation trains have perished.



Shoes for Women.

Within three blocks of my Boston residence, says Dr. Dio Lewis, there are eleven corn doctors. Some of them employ a number of operators, and do an immense business. A large majority of adults, among the better classes, suffer from corns or other maladies of the feet. Walking, the best of all exercises, would be indefinitely increased if our feet were healthy. Prompted by sufferings in my own person, and by sympathy with the sore-footed cripples about me, I have studied this subject of the feet with much care and interest. Let me give you the result of my observation and thought.

The sole is too narrow! It has long been suspected that a narrow *soul* was the great trouble in this world. The particular suffering under consideration, I am sure, all or nearly all, comes from too narrow a sole. My friend Mrs. C., on reading the chapter in *Our Girls*, devoted to "Boots and Shoes," came to say, that although she was a great sufferer from corns, and a sore, crippled condition of foot, her shoes were, nevertheless, enormous, twice as large as her feet. She wished I would see if it was not so. I examined the shoes, and agreed with her that they were too large. As she stepped, it was doubtless true, as she said, that her foot rocked over first on this side and then on the outside, rubbing down over the edge of the sole and touching the ground, and perhaps, if the ground was at all uneven, on the very next step, her foot would rock over on the other side of the sole.

Such friction between the little toe and the big toe joints against the upper leather must inevitably produce corns. I think the majority of shoes are too large. Mrs. C. wished me to accompany her to the shoemaker's and see what I could do for her relief, for really life was becoming a torture. We went to her own shoemaker. Mrs. C. hobbled to a seat and declared: "I won't try to walk again, there!" Her shoes were removed, and Mr. Shoemaker marked around her foot, while she was standing upon it. We measured the mark and found that it measured exactly four inches. That was the width of her foot, when she was stepping on it without a shoe. Then we measured the sole of the shoe she had been wearing, and found it two and a half inches. Here was the secret of the whole trouble. A pair of shoes were made for her at once, with soles four inches broad. Now she can walk for hours without a pain in her feet. There are millions of poor sufferers in the country, who are limping and hobbling through the world, who might be perfectly relieved and cured by the same mode.

Hints to Young Ladies.

If young women waste their time in trivial amusements, in the prime season of improvement, which is between the ages of sixteen and twenty, they will hereafter regret bitterly the loss, when they come to almost every one they converse with; and above all, if they should ever be mothers, when they feel their inability to direct, and assist the pursuits of their children, they will then find ignorance a severe mortification and a real evil. Let it animate their industry, and let not a modest opinion of their capacities be a discouragement to their endeavors after knowledge.

A moderate understanding, with diligent and well directed application, will go much farther than a more lively genius, if attended with that impatience and inattention which too often attend quick parts. It is not for want of capacity that so many women are such trifling and insipid companions, so ill-qualified for the friendship and conversation of a sensible man—for the task of instructing or governing a family; it is often the neglect of exercising the talents they really have, and from neglecting to cultivate a taste for intellectual improvement. By this neglect they lose the sincerest of pleasures, which would remain when almost every other forsook them, of which neither fortune nor age could deprive them, and which would be a comfort and resource in almost every possible situation in life.

Winter Evenings.

How do we spend our long winter evenings? Do we give ourselves up to games, fun and hilarity? Yes, occasionally, and we feel all the better for it. What is there more trying to the mental powers, especially to memory and concentration, than chess? What more enjoyable than a well-contested, honest and friendly game of croquet? Skill, not chance, governs here. Then, for the young folks, there are, besides, Croquet, Blindman's Buff, Question and Answer, Stage-Coach, Consequences, etc. Others want a comic performance, after the style of Paul Pry, in which an excellent lesson, that of "mind your own business," is so effectually taught. One selects a poem, another an oration, still another the debates in Congress or in the Legislature. Students will be occupied with their regular studies, except the time needed for rest and recreation.

All, except the most rigid orthodox Quakers, will enjoy music, which should be available in every house, for

"Music hath charms to soothe the savage breast,"

and to bring discordant minds and souls into harmony and unison. The useful magazines will also be read aloud for the information of those who listen, while the foolish and frivolous will spend useful time in reading useless trash, which is the worst sort of mental dissipation; the memory is weakened, the imagination perverted, the passions unduly excited, and the whole nervous system unstrung by what is called "sensational literature."

Boys and girls, whose careless parents have no oversight in the selection of their reading matter, are wont to steal away alone and indulge in this—which should be—"forbidden fruit," greatly to their harm. Wise parents select and provide in advance for the healthful wants of their children. Good books adapted to their capacity are placed within easy reach, and a proper taste thus implanted. We must not ignore the right use and exercise of all the faculties, and rational amusements are just as much a part of our real wants, as penitence and pardon for wrong-doing.—*Phrenological Journal*.

A Tidy House.

As a general rule for living neatly and saving time, it is better to keep clean than to make clean. If you are careful not to drop crumbs of bread or cake on the carpet, you will escape an untidy room, and save the trouble of cleaning it. In working, if you make a practice of putting all the ends of your thread into a division of the work-box, kept for the purpose, and never let one fall on the floor, the room will look very differently at the end of the morning from what it does when this is not attended to.

A house is kept far cleaner when all the members of the family are taught to wipe their feet thoroughly on coming in from out of doors, than it can be done where this is neglected. There are a thousand ways of keeping clean and saving labor and time, which are well worth while to learn and practice, and though they may seem to entail trouble, it is not so with any one of refined feelings, who regards all labor to secure cleanliness a labor of duty and love.

Explanation of Blushing.

An emotion—sometimes pleasurable, sometimes painful—takes possession of the mind, and thereupon a hot flush is felt, the skin grows hot, and according to the intensity of the emotion these changes are confined to the cheek only, or extend to the "roots of the hair," or "all over."

What is the cause of these changes? The blood is a red and hot fluid; the skin reddens and grows hot because its vessels suddenly contain an increased quantity of this red and hot fluid; and its vessels contain more because the small arteries suddenly dilate, the natural moderate contraction of their muscles being superseded by a state of relaxation. On the other hand, in many people extreme terror causes the skin to grow cold, and the face to appear pale and pinched. Under these circumstances the supply of blood to the skin is greatly diminished in consequence of an excessive stimulation of the nerves of the small arteries, which causes them to contract, and so cut off the supply of blood.—*Hearth and Home*.

MR. T. B. PUGH, of Philadelphia, says: Miss Dickinson is the most popular female orator in the country; (Mrs. Livermore comes next, and Olive Logan next.) Olive is a good card. She always has a good house, and is a decided favorite.

Economy of Time.

One individual engaged in business gets worn out, dyspeptic and nervous; a month's relaxation would restore his health; yet rather than give himself the needful rest, he takes the risk of years of suffering and inability.

Another, in the mistaken idea that he is economical, blacks his own boots, and occupies time in other comparatively profitless occupations, when his time may be worth twenty times as much in his regular calling.

Another, the one whom the moralists unite in condemning—the standard type of the idle man—squanders all his time on frivolous things; yet he is the only consistent man of the lot. He makes no pretense of economy, he makes idleness a profession. True economy in the use of time consists in getting as large a return as possible for its expenditure. The man who ruins his eyes by reading in railroad cars, under the mistaken idea that he is economizing time, is not getting the largest return possible for the use of that time. Good vision in advancing age is worth more than all the information thus obtained.

The student who spends a couple of hours a day with his skates, or oars, or football, is probably earning more in his recreation than in any similar period of time spent in study. The man who, by a hearty frolic with his children in the morning before he starts to his work, gets good humor for the day, earns as much in his play as he does in his work.

The man who does any kind of work when he might do other kind of work which would pay better, wastes time.

PERFUMES were once verily made from flowers; but the chemists have done away with all that, and we now know that it will not do to inquire too closely into the origin of the ravishing extracts which we drop upon our linen cambric pocket-handkerchiefs. Essences used for flavoring creams and jellies—such as pear, peach, cherry, strawberry and orange—are now made from fusil oil, which used to be thrown away as refuse; while spoiled cheese and butter furnish us with the essence of pineapple! *Eau de Mille Fleurs*, so popular as a perfume, is not indebted to a single flower for its existence, but is concocted from the refuse of the cow-house!

SQUEAKING BOOTS.—A correspondent of the *Scientific American* gives the following experience regarding this nuisance: I have two pairs of calfskin boots, both inveterate squeakers, which I have worn for a year. I tried all the known remedies, as greasing the soles, driving in pegs and nails, soaking them in water and wearing them till dry, but without success. At length a happy thought struck me. With a rag I saturated the insoles with kerosene oil; and *Eureka et glory!* the thinnest pair gave in at once, and the other pair after the second application.

Sextons and ushers will please make a note of this, and ever cherish, with grateful remembrance, the name of the discoverer.

HOME MANNERS.—Good manners are not learned from arbitrary teaching so much as acquired from habit. They grow upon us by use. We must be courteous, agreeable, civil, kind, gentlemanly and womanly at home, and then it will soon become a kind of second nature to be so everywhere. A coarse, rough nature at home begets a habit of roughness which we cannot lay off, if we try, when we go among strangers. The most agreeable people we have ever met in company are those who are perfectly agreeable at home. Home is the school for all the best things, especially good manners.

PUTTING TO BED AS A PUNISHMENT.—The custom of sending children to bed at unusual hours, when they cannot be expected to sleep, as a penalty for disobedience or other offense, is fruitful of the worst possible results. The severest chastisement is far less injurious. Would not a diet of bread and water, say for a day or two, be less barbarous? Cannot sensible parents govern their children by kindness, affection and moral authority?

HOME can never be transferred, never repeated in the experience of an individual. The place consecrated to parental love by the innocence and sports of childhood, is the only home of the human heart.

MRS. ELIZABETH TUCKER, supposed to be one hundred and eleven years old, died in Rockingham county, North Carolina, on the 5th inst. She was the last of the revolutionary pensioners of the county.

Young Folks' Column.

A Good Action Repaid.

Nearly half a century ago, long before railroads were invented, a stage coach used to run every day between Glasgow and Greenock, in Scotland. One day a lady who was traveling in this coach, noticed a boy walking barefooted, and looking very tired as he struggled to get along. She asked the coachman to take him up and give him a seat, and she would pay for it.

When they arrived at the inn at Greenock, which is a seaport town, she asked the boy what he had come there for. He said he wished to be a sailor, and hoped some of the captains would engage him. She gave him half a crown, wished him success, and told him to be a good boy, and try to love and serve God.

After this, twenty years passed away. One afternoon the coach was going along that same road, returning to Glasgow. Among the passengers was a sea captain. When they reached about the same spot, just referred to, the captain observed an old lady on the road, walking very slowly, and looking very tired and weary. He asked the driver to put her in the coach, as there was an empty seat, and he would pay for her. Soon after, as they were changing horses, all the passengers got out except the captain and the old lady.

As they were alone, the lady thanked the captain for his kindness in giving her a seat, as she was unable to pay for one. He said he had always felt a pity for poor, tired, foot-travelers, for twenty years ago, when he was a poor boy traveling on foot, near this place, some kind-hearted lady ordered the coachman to take him up, and paid for his seat.

"I remember that very well, for I am that lady; but my condition is very much changed. Then I was very well off, but now I am reduced to poverty by the bad conduct of a prodigal son."

Then the captain shook hands with her, said how glad he was to see her. "I have been very successful," said he, "and am now going home to live on my fortune; and now, my good friend I will settle £25 (that is \$125), upon you as long as you live." God paid her back again more than a hundred-fold what she gave in pity to that poor boy.

Children's Sayings.

Little Jessie had been doing something which her mamma had told her she must not do. She had been eating currants, and of course got her mouth all stained. That's the way she got found out. Her mother said: "You know you were forbidden to eat currants!" "But, mother, Satan tempted me!" "Why didn't you say get thee behind me, Satan?" "I did say get thee behind me, Satan; and he went and got behind me, and pushed me right into the currant bushes."

Little boy, can I go through this gate to the river? politely inquired a fashionably dressed lady.

"Perhaps so; a load of hay went through this morning," was the horrid reply.

A boy having heard that "twenty years ago Leland Stanford arrived in California with only one shirt to his back, and since then, by close attention to business, has contrived to accumulate over ten millions" asks, "What can a man do with ten million shirts?"

THE FIGURE FIVE.—Any number of figures you may wish to multiply by 5 will give the same result divided by 2, a much quicker operation; but you must remember to annex a cipher to the answer when there is no remainder; and when there is a remainder annex a five to the answer. Multiply 464 by 5, and the answer will be 2320; divide the same number by 2, and you have 232, and as there is no remainder you add a cipher. Now take 357 and multiply by 5 and the answer is 1785. On dividing 357 by 2 you have 178 and a remainder; you then place a 5 at the end of the result, which gives 1785.

Letter Puzzles.

R-a-i-t-c-i-o-v, is the name of a famous woman.

E-l-h-o-t-a-n-r-e-v-w, is a street in San Francisco.

C-i-a-i-v, is an island, it will take you a long time to find, if you are not perfect in geography.

Charade.

My first means against;
My second is a string;
My whole is a city in the "Granite State."

DOMESTIC ECONOMY.

House Cleaning.

"Oh, dear, here comes again the dreaded time for a general overhauling. I wonder what for things get dirty."

Poor Biddy, she has a little too much of the work that is made for man, instead of the man being made for the work.

I wonder if I were to systematize what little I know of the subject, would it lighten the load for weary backs? By way of preface I would remark that there is too much slopping on house cleaning occasions; a lady should be able to white-wash a room or wash its wood-work without spilling a drop of lime or water. Then the carpets could be taken up, returned and order restored in short metre.

"What, and let the dust settle on the clean wood and windows?"

Of two evils choose the least. Better a little extra dusting than live under the long reign of confusion that accompanies the usual method.

Then I would recommend cleaning one room at a time; those furthest removed from general usage first. Sweep carpets before taking up; send carpets and litter to the lower regions through the windows, by means of basket and rope. There again care must be taken, else the yard will look worse than the house; for this reason let carpets be shaken at a distance. Be careful and extract every tack before shaking. I have heard of three different cases of loss of sight from tacks having entered the eyes while carpets were being shaken.

To Whitewash Ceilings

of rooms, unslacked lime is good enough; but if for the sides a mixture of whiting and glue is preferable—it does not rub off; to put it on without dropping, have a two-quart basin with only a little wash in. This you can hold in one hand without fatigue, while with the other you ply the brush. A pailful becomes dirty; also you are apt to get too much lime on the brush. You will choose a square as large as the arm can swing the brush over, dip only one side of the tip in the wash, carry this to the center of the square and paint each way. The reason is obvious; if you commence where you left off, the lappings will be whiter than the rest. Let the first coat be thick, the last thinner. Cross and recross each time on each square. Commence in a different corner the second time.

If my directions have been plain enough and you follow them, you will not drop a particle of whitewash, and there will be no droppings or brush-marks on your room ceiling. A paint brush does finer work, and is easier to learn with.

To Clean Paint

use little water at a time; keep warm and clean by changing often; a flannel cloth is better than cotton. Be careful of soap. Put but a little soap or skim milk in the water, add soap to the cloth when needed. A sharp piece of soft wood is indispensable for the corners; the point will become like a paint brush. A saucer of sifted ashes used where paint is badly smoked or fly specks are thick, is better than soap; wipe last with clean wet towel and don't spill a drop of water. Never put soap on glass unless it can be well rinsed, which I think can never be the case with windows; wash off dirt in clean warm water and dry; then with a paste of whiting and water, and with a little cloth, place a little in the center of each pane. With another cloth rinse over the glass; next rub off with dry cloth till the window shines like crystal.

Papering.

Don't try to paper with a carpet down. Make paste, cut bordering, and the paper, the day before. If the wall has been white-washed it must be washed in vinegar to neutralize the alkali in the lime. If papered before and you wish the paper removed, soap with water and it will peel off.

If convenient provide a long board wide as the paper, though a table or two will do. The paper must be measured, placed right side down on the board, then with a brush proceed to lay on the paste, not too thickly, but over every part, and be careful that the edges receive their share. When completed, double within three inches of the top, the paste sides being together, carry to the wall, mount your chair, and stick your three inches pasted paper on the wall at top. That holds it; now strip down the other, and see that it fits just right; if not, peel down, make right, then press to the wall from the center right and left. Leave no air under, or when warm it will expand, bursting the paper.

Of course the paper must be matched; it

will not do to measure by line unless the walls are perfectly plumb. Small figures make less waste and a small room looks the largest. Stripes make a low room higher and if there are no figures between, or in the stripe to match, there is no waste, and no trouble in putting on. If a narrow border is the style, let it be bright if the paper be neutral, but if that be bright, the border had better be dark and neutral.

If the paste be made too thick the paper will be apt to crack and peel off, if too thin, it will saturate the paper too quickly and make it tender in putting on. A counter-duster (Brussels brush), is nice to brush the paper to the wall. White clean cloths will do, but it will not do to rub the paper with this; being damp the paint or color rubs off the paper. The tables must be dried each time after pasting, for the same reason. Paste under paper must not freeze, neither dry too quickly. If whitewashing is done after papering, place a shingle next to the border, or better, tack double strips of newspaper wider than the border all around the room.—*Ex.*

BEDS.—These are very necessary, as well as convenient and comfortable; but like all other things in this world, there are good and bad beds. Feather beds are injurious in every way to health, and should, therefore, be dispensed with. The way in which many manage them is also very absurd; they rise from them in the morning, make them up steaming hot, close the doors and windows, all till bed-time. Then the scene is acted over again. All beds should be most thoroughly aired after being used, that the gases and odor imparted to them from the human body may be removed. The room, also, should be well ventilated. There are many materials that make more healthful beds than feathers, among which may be enumerated hair, husks, straw, springs, etc. Cotton will answer for some constitutions; but for most it is too heating. Many patients tell their physicians they cannot sleep on a bed made of cotton. It produces a restless, itching sensation, like that of insects crawling over the body. Hard beds are much to be preferred to soft ones, and that for more reasons than can here be stated.

APPLE CAKES.—Mix unbolted wheat or rye meal with cold water, making a dough or batter soft enough to nearly level itself. If shortening is desired, use sweet cream or butter. Fill a rather deep pie plate about a third full of the batter, and sprinkle over a little sugar. Wash, quarter and core tart apples, and place as many of them in the batter (skin side up), as it will hold. They may be pressed down and leveled with a stiff spoon. Over the top sprinkle some sugar, and bake till nicely brown.

This cake is both wholesome, nutritious and delicious. Children and grown folks can eat of it without danger of injury.

TRICHINÆ IN THE DOMESTIC FOWL.—Dr. G. S. Bryant reports having found imbedded in the stomach and intestines of the hen large numbers of entozoa, coiled in cysts in every possible attitude, and not unlike the trichinæ found in the human muscle. He suggests that the disease known as "chicken cholera" is dependent on the presence of these entozoa, and promises to continue and report investigations on this subject.—*Richmond and Louisville Medical Journal.*

WILLOW LEAF TEA.—It is announced, on excellent authority, that more than half a million pounds of willow leaf were made up at Shanghai, last season, and palmed off as green tea. The willow leaf, as prepared, cannot be distinguished from green tea by the eye; but to cover the difference in taste, it has to be mixed with tea before being sold. It can be produced at a cost of about four cents a pound, and can be used in the proportion of twenty to forty per cent. of the whole mixture.

BAKED apples are a very healthy food for children and grown people, and should be placed upon the table every day. Many persons are very fond of sweet apples and milk, and we must say we reckon ourselves among the number. Give us good, plain, well cooked food, in preference to fixed up dishes of conglomerated pastry.

REFUSE lemon halves, left after lemonade and cake-making, should never be thrown away. They will be found to have very useful properties. The cook can cleanse her hands with them, or she will find them useful for taking stains from her platters and sauce-pans.

CLEANLINESS is next to godliness.

Domestic Receipts.

POTATO PIE-CRUST.—Boil one quart dry, mealy potatoes. The moment they are done, mash them and strain through a colander. Stir thoroughly together one cup of Graham flour and one cup of white flour, then add the potatoes, rubbing them evenly through the flour, in the same manner as the shortening in common pie-crust. Have ready one cup of corn meal; pour over one and one-third cups of boiling water, stirring it till all the meal is wet, then add it to the potatoes and flour, mixing only till thoroughly incorporated together. No more flour should be added. The moulding board should be well covered with dry flour, however, as it is slightly difficult to roll out. It should be rolled very thin, and baked in a moderate oven.

It is very essential that the above conditions should all be complied with. Bear in mind that the potatoes must be *hot*, and mixed immediately with the flour; the water be poured while *boiling*, upon the corn meal, and the whole mixed together very quickly, and baked immediately.

SHAVING CREAM.—Take one pound of soft soap in a jar; add to it one quart best alcohol; set the jar in a vessel of boiling water until the soap is dissolved. Perfume with essential oil to suit. This is a good article for shaving, especially for those troubled with pimples on the face. Two or three drops rubbed on the face with the end of the finger is enough for shaving. Dip the end of the brush in a little hot water, brush the face briskly, and it will raise a rich lather.

TO WASH MERINO.—The same method should be pursued as for flannels and all woolen and cotton goods. Boil the soap to make a lather, wash them in this warm, and rinse in a second lather. If white mix a little blue. Never rinse in plain water, or cold water.

EGG PUFFS.—Six eggs, one pint of milk, three spoonfuls of flour, four ounces of butter melted, and a spoonful of yeast; mix and fill cups half full; bake fifteen minutes; wine sauce.

RICE FRITTERS.—Boil a teacupful of rice until it is tender; strain upon it one quart of milk and let it boil ten minutes; cool it and add flour enough to make a batter as thick as will fry easily on the griddle; add two tablespoonfuls of yeast; let it rise three hours; then add two well-beaten eggs and cook on a heated griddle. Scatter sugar and cinnamon mixed together over each cake, when it is baked.

Mechanical Hints.

UTILIZING WASTE OF GUTTA-PERCHA AND RUBBER.—The waste is cut into small pieces, and 100 pounds of the same are placed in a well-closed boiler, with 10 pounds bisulphide of carbon and 4 ounces absolute alcohol, well stirred; then the boiler is closed, and left a few hours to soak. After this time it is found to be changed into a soft, dough-like mass, which, after being ground or kneaded, is fit to be formed into any shape, when the solvent will evaporate. If too much of the latter has been used, a thick, unmanageable liquid is obtained. This process was patented in England some sixteen years ago.

CHEAP PAINT.—A cheap paint may be made for outbuildings that will last for years, by taking milk and cement—or "water lime" as some call it; mix and apply three or four coats; any dry color may be added. This will last for years and by renewing once in two or three years, a building will look as well as if painted with oil paint. To put this on, the paint should be stirred constantly or the finer parts will all soon be used out and at last you will have nothing but sand. Have a boy to stir it all the time; mix often.

A VERY cheap varnish must, of necessity, be dear at any price, for it is certainly more profitable to use a varnish that will wear well, and save the expense of repainting; thus doing two jobs at the price of one.

TO IMPROVE GILDING.—Mix a gill of water with two ounces of purified nitre, one ounce of alum, one ounce of common salt; lay this over gilt articles with a brush, and the color will be much improved.

KEROSENE applied with a cloth to stoves will keep them from rusting during the summer. It is also an excellent material to apply to all iron utensils used about a farm.

SALT mixed with lemon juice forms a solution with which rust can be removed from iron.

LIFE THOUGHTS.

CHARITY is an eternal debt, and without limit.

Be slow to take when strangers haste to give.

A NOBLE heart, like the sun, shows its greatest countenance in its lowest estate.

GREAT power and natural gifts do not bring privilege to the possessor so much as they bring duties.

THE certain way to be cheated is to fancy one's self more cunning than others.

If you know anything that will make a brother's heart glad, run quickly and tell it; but if it is something that will cause a sigh, bottle it up.

It is of no advantage to have a lively mind if we are not just. The perfection of the pendulum is not to go fast, but to be regular.

THE truly great and good in affliction bear a countenance more princely than they are wont; for it is the temper of the highest hearts, like the palm-tree, to strive most upward when it is most burdened.

KIND words are the bright flowers of earth's existence; use them, and especially around the fireside circle. They are jewels beyond price, and powerful to heal the wounded heart and make the weighed-down spirit glad.

MANKIND has been learning for six thousand years, and yet how few have learned that their fellow-beings are as good as themselves.

MORE men grow old from having nothing to do, than from overwork. The running machine will keep for years—the idle machine will soon rust out.

You will find that when you set your heart upon the things that are worthy of it, the small, selfish ends which used to be so dear to it will appear almost disgusting. You will wonder that they ever could have had such hold upon you.

Thinking Promotive of Health.

It is reasonable to expect that with the improvements in mechanical appliances and the proportionate reduction of manual labor, to say nothing of the superior results secured by machinery, there would be less mental friction or excitement, and a consequent tendency to that nervous harmony which is essential to successful thought. A man being able, by the assistance of the unerring and tireless fingers of steel, to accomplish in one quarter of the time that which his unsteady hand was capable of doing before the friendly automaton lent its help, should find that cerebral calm which is not generally incident to fatiguing toil and opportunity for prosecuting studies which give breadth to the mind and perspicuity to the judgment. Thus should those who enjoy the best physical health and the happiest moral condition.—*Drayton.*

WE must never fall into the delusion that the purposes of God set aside the use of means. I have heard thoughtless or captious talkers say, "If God works out his purposes, then there is no need for preaching, or any other means." Ah, simpleton that thou art, if we teach you that God works out his purposes by means, how mad must you be to charge us with thinking lightly of the means!—*Spurgeon.*

Lost wealth may be restored by industry; the wreck of health regained by temperance; forgotten knowledge restored by study; alienated friendship smoothed into forgetfulness; even forfeited reputation recovered by penitence; but who ever again looked upon his vanished hours—recalled his slighted years, stamped them with wisdom, or effaced from heaven's record the fearful blot of wasted time.

It unfortunately happens that no man believes he is likely to die soon, so every one is much disposed to defer the consideration of what ought to be done, on the supposition of such an emergency; and while nothing is so uncertain as human life, so nothing is so certain as our assurance that we shall survive most of our neighbors.

ENJOYMENT.—Those who are not easy at home will not find enjoyment anywhere else. The man who yawns at his own fireside will only lacerate his jugular if he goes to a crowded city. Happiness is an internal arrangement, and if it don't bloom at home, it won't flower anywhere.

MINDS of moderate caliber are too apt to ignore everything that does not come within their own range.

THE WATER QUESTION.

By A. B. BOWERS, CIVIL ENGINEER.

[Concluded.]

Conclusion.

Touching here and there, with utmost brevity, upon a few only of what may perhaps be termed the more important points on the agricultural side of the question, yet have we largely exceeded the time and space designed for this article, and must hasten to close, leaving many other points equally important, wholly without notice.

Our leading ideas upon the agricultural bearings of the subject may be summed up, in brief, as follows:

1. Canals of irrigation for both swamp land and upland, constructed only after careful surveys shall have shown their most advantageous location.

And that these italics may not be regarded as a deliberate insult to the intelligence of our readers, we hasten to assure them, that large sums of money, have everywhere been misapplied, and the interests of large localities, sacrificed, by the improper location and construction of works of irrigation, from insufficient surveys; and that, not only in Spain, and Italy, but also in India, where irrigation is most extensively and skillfully practiced, large outlays have been necessary to correct these errors. A notable instance of which is that of the Ganges Irrigation Canal, than which, perhaps no more expensive example of amateur engineering can anywhere be found.

2. Reservoirs through the foothills and mountains, principally as supplemental feeders during low water, to the canals of irrigation and for the irrigation of lands above the reach of the canals; but secondly, for diminishing to some extent, the rise of rivers, and the consequent cost of levees.

3. Catchment drains, to protect basins from the drainage of the uplands; so located and constructed, as to serve for irrigation also.

4. Levees and dikes, to exclude the water of rivers and sloughs.

5. The present method wherever practicable, of tidal, fresh water irrigation, through flood-gates properly constructed or this purpose.

6. Thick rows of trees, to shade all the lines of distribution, diminish evaporation, and serve as a partial protection from the scorching winds of summer.

7. Steam pumps, if necessary, to remove surplus water collecting in large basins, from rainfall within their borders, or from springs or filtration.

Though the experience of years, has thoroughly demonstrated that the porous soils of our reclaimed swamp lands, from mountain valleys five thousand feet in elevation, all the way to the sea, everywhere require irrigation, much more than our upland, yet we not unfrequently hear men urging the necessity of irrigation on uplands, who scout the idea of our swamp lands suffering from drouth; and this, too, when every time these men, pass up or down the Sacramento, or San Joaquin rivers, they look out upon lands formerly three feet under water, that to their certain knowledge, are now constantly irrigated by the tide. We read of men of old time, that, "having eyes, they see not;" while a later proverb assures us that "none are so blind as they who will not see." It is evident that human nature is still the same.

We assure those interested in this subject, that irrigation, when properly applied, whether upon swamp land, or uplands, has invariably been attended with most satisfactory results. A water rent the past season of \$4 per foot for twenty-four hours, or about \$4 per acre, has enabled farmers in Yolo, to obtain a remunerative crop, from this partial irrigation, where nothing could have been made without it; while two heavy crops have been obtained in Fresno, from a single flooding of the land, previous to putting in the first crop; though the crops upon the adjacent un-irrigated land, was a total failure.

Three crops of hay in a single season have been raised in the mountains, yielding eight tons per acre, from an irrigation during the dry season, of about 2,000 cubic feet of water per week; and within the last nine months, sixty bushels of barley, and three crops of alfalfa, yielding one and a half tons per crop per acre, have been grown upon thoroughly irrigated swamp land, and probably two more crops of hay can be harvested within the year—making six crops in all from the same piece of ground.

Both horses and steam have been profitably employed this season in the irriga-

tion of swamp lands above the reach of the tide. One gentleman whom we found pumping water with six horses, for the irrigation of his swamp land, assured us that the value to him, of the water so applied could not fall short of \$100 per day.

As fast as possible we should utilize the drainage, which would at the same time, limit the sudden flooding of our rivers and valleys, and prevent the drainage of the foothills and mountains from sweeping our levees into the river, as has sometime been the case, heretofore. We need the entire rainfall of the State, for irrigation, and should save all we can.

Build reservoirs, sluiceways, and canals. We need them everywhere; high up the mountain sides,—down in the foothills,—in each little valley. Dam each little creek and cañon. Collect water everywhere, and spread it all over the country. Then will our lands be full of fatness, and our granaries filled to overflowing. Then will our rivers be kept within their channels by moderate embankments, and the irrigation of upland and lowland, the reclamation of swamp land and tide land, and the enrichment of our people go hand in hand.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

(The prices given below are those for entire consignments from first hands, unless otherwise specified.)

SAN FRANCISCO, THURS., A. M., Dec. 14.

FLOUR—Some little demand for export; local and interior demand fair at unchanged rates. Sales reported embrace 4,000 bbls. Cal. extra, 1,500 do. Cal. superfine, and 2,500 Oregon extra. We quote prices as follows: Superfine, \$6.50@6.75; extra, in sacks, of 196 lbs. \$7.50. Standard Oregon brands, extra may be quoted at \$7.50.

WHEAT—In limited demand, chiefly confined to millers. Sales aggregate 17,000 sacks fair to choice at \$2.35@2.55 per 100 lbs. Quotable at close at \$2.35@2.50 per 100 lbs.

The latest Liverpool market quotation comes through at 12s. 9d. per cental.

BARLEY—Has been very quiet during the past week, at a decline in prices. Sales embrace 5,000 sacks ordinary Coast to choice Bay, at \$1.85@2.00. Quotable at close at \$1.85@2.00.

OATS—Market has been inactive during the week under review, but prices are without special change. Sales 4,000 sacks ordinary coast to choice bay, at \$1.80@1.95. Quotable at close at \$1.77@1.95 per 100 lbs.

CORN—Is quotable at 2.05@2.10 for yellow and white respectively per 100 lbs.

CORNMEAL—Is quotable at \$2.75@3.25 from the mill.

BUCKWHEAT—Quiet at \$2.50.

RYE—According to quality is quotable at \$2.37@2.40.

STRAW—Quotable at \$6.50@7.50 by the cargo.

BRAN—Selling at \$30 per ton from the mill.

MIDDLINGS—For feed, are selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Receipts have been light, and prices at close are \$19@25 for fair to choice per ton.

HONEY—We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

BEEWAX—In good demand at 37½@40c per lb.

POTATOES—In good demand and receipts heavy, Petaluma, 75c; Humboldt 95c, other kinds 70c@1.00.

SWEET POTATOES—Are selling at \$2.50 per 100 lbs.

HOPS—The range is 40@60c.

HIDES—Drying past week 1,470 Cal. dry sold at 17¼@18¼ and 1,560 salted at 9¼@9½c.

WOOL—Sales for the week include 200,000 lbs. at 20½@26 per lb., the former figure for burry. The market has remained inactive on account of dullness in the Eastern market. The stock on hand amounts to 4,500 or 5,000 lbs. chiefly in the hands of speculators. Prices for good to choice shipping grades are 22c@26c. Burry and dirty as usual neglected and prices more or less nominal.

TALLOW—Market quiet at 9@9½c per lb.

SEEDS—Flax 3c; Canary, 5@7c; Alfalfa, 15@16c; Mustard—California Brown, 3@6c; Cal. White 3½@4½c per lb.

PROVISIONS—California Bacon 14@14½c; Oregon, 15½@16c; Eastern do. 13½@14c; for clear and 14@15 for sugar-cured Breakfast; Cal. Hams 14@14½c; Oregon, 15½@16c; California Sugar-cured Hams, 17@18c; Oregon do. 17@18c; Eastern do. 19@21c; California Smoked Beef, 14c.

BEANS—Market continues firm. The following are jobbing rates: Pea \$3@3.50; small White \$2.75@3.00; small Butter \$2.50@2.75; Pink \$3; Bayo, \$3.25@3.50; Navy \$3.50 per 100 lbs.

ONIONS—We quote the range from fair to choice at 70@1.00 per 100 lbs.

NUTS—California Almonds, 8@10c. for hard and 18@25 for soft shell; Peanuts, 5@7c; Pecan, 25c per lb Walnuts, new, 14c; Hickory, 12c; Brazil, 16c; Chili Walnuts, 10c; Eastern Chestnuts 15@25.

COFFEE—Costa Rica 21c; Guatemala 20c;

Java 25½c; Manilla, 19½c; Rio 19½c@20. Ground Coffee in cases 30c.

SPICES—Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Whole Pepper 19c. Ground Spices—Allspice \$1.00 per doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 per doz.; Mace \$1.50 per lb.; Ginger 15c per lb.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@10c per lb. do. 2d quality 7@8c per lb.; do. 3d do. 5@6c.

VEAL—Quotable at 7@10c.

MUTTON—6@7c per lb.

LAMB—Quotable at 8c per lb.

PORK—Undressed grain-fed is quotable at 5½@6c. dressed, grain-fed, 8@8½c.

POULTRY—Live Turkeys, 16c per lb, dressed, 18@20c; Hens and large Roosters, \$6.00@7.00; Spring Chickens, \$4.00@5.00; Ducks, tame, \$7.00@8.00 per doz.; Geese, \$12@15 per dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87½; English Snipe, \$1.75@2.00; Mallard Ducks, \$3.00@3.50; Small Ducks, \$1.50; Wild Geese per doz. \$1.50@2.00; Venison per lb., 6@8c; Terrapin per doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@50c; California firkin butter, 27½@35c. Pickled 32½@37½. Eastern firkin 20@35c.

CHEESE—California 14@18c, Eastern, 16@17c.

EGGS—California fresh, 42½@45c per doz.

LARD—California 13@14 Oregon in bbls. and kegs 12½@13c; do in cases 14½@15.

FRUIT.

Tahitian and Mexican Oranges.....\$25 00 @ 35 00
Limes, per 1,000.....8 00 @ 10 00
Australian Lemons, per 100.....4 00 @ —
Sicily do per box.....10 00 @ 12 00
California do per box.....2 50 @ 3 00
Bananas, per bunch.....2 00 @ 2 50
Cocoanuts, per 100.....7 00 @ 8 00
Apples, eating, per box.....1 00 @ 1 50
Do cooking do.....50 @ 1 25
Pears, cooking.....50 @ 1 50
Do eating.....1 00 @ 1 50
Quinces, per box.....1 25 @ 1 50
Strawberries, per lb.....20 @ 25
Grapes, Mission, per lb.....3 @ 5
Rose of Peru do per lb.....5 @ 7
Black Hamburg, do per lb.....5 @ 7
Muscat of Alexandria do per lb.....5 @ 10
Flame Tokay do per lb.....5 @ 8
Black Morocco do per lb.....8 @ 10
Eastern Cranberries per bbl.....16 00 @ 17 00

DRIED FRUIT.

Apples, per lb.....6 @ 7
Pears per lb.....8 @ 10
Peaches, per lb.....8 @ 9
Apricots, per lb.....8 @ 8½
Plums, per lb.....18 @ 20
Pitted do per lb.....10 @ 15
Raisins per lb.....8 @ 12½
Black Figs, per lb.....15 @ 20
White do.....15 @ 20

VEGETABLES.

Cabbage, per lb.....1½ @ 2
Garlic, per lb.....1 @ —
Tomatoes, per box.....1 50 @ 2 00
Marrowfat Squash, per ton.....9 00 @ 10 00

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a good demand for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—Local and export trade have been fair during the period under review. Dealers pay for cargoes of Oregon as follows: Rough \$16; do. dressed \$28; Spruce \$17@18. Redwood Lumber Association's prices are as follows:

Merchantable worked rustic,.....\$31 00 to \$32 50
Refuse do do.....20 00 to 21 50
Merchantable surfaced and rough clear.....28 00 to 30 00
Refuse surfaced and rough.....18 00 to 20 00
Merchantable beaded flooring.....28 00 to 30 00
Refuse do do.....18 00 to 20 00
Merchantable rough.....15 00 to 16 00
Refuse do do.....12 00 to 14 00
Fancy Pickets.....22 50 to 25 00
Rough Pickets.....15 00 to 16 00

The mill price for cargo lots from Northern Ports is \$9.00@10 for timber, and \$17.50@20 for flooring.

PAINTS—Stocks remain in liberal supply and demand fair. We quote White Lead at 10@12½c; Whiting, 2c; Chalk 2½c per lb.

FISH—There has continued a fair demand since our last weekly review. Sales of 100 bbls. Salmon, private. We quote Pacific Dry Cod in bbls at 5c, and in cases at 8@8½c; Salmon, in bbls, \$5.50@7.50, hf do, \$3.50@4.50; Case Salmon, \$2@3 per doz for 1@2-lb cans respectively; Pickled Cod, \$4.50 in hf bbls and \$8 in bbls; Puget Sound Smoked Herring, 60@85c per box; Mackerel, hf bbls, new, per rail, \$12; do in kits, \$; extra mess do, \$5; No. 1, via Cape Horn, \$9@10 for hf bbls and \$2.50 for kits; Smoked Salmon, 7@7½c per lb.

RICE—The market has remained steady during the past week. Sales of 1,000 mats China, in lots private. At auction—750 mats No. 2 China 50-lbs each, \$7.80 per 100 lbs., on a credit of 60 days for sums over \$500; 400 do No. 2 Siam, 7c per lb. We quote China No. 1 at 8½@8¾c and No. 2 at 7¾@8¼c per lb; Siam, quotable at 7@7½c in mats; Carolina, 10c; Hawaiian Table, 9c per lb.

SUGAR—Market remains steady. We quote Cal. Cnbe at 14½c; Circle A Crushed, 14½c in bbls, and for hf do ½c higher; Yellow Coffee and Golden C, 12½@13c; Hawaiian, 8@12c as extremes per lb.

SYRUP—Market remains steady. We quote as follows: 82½c in bbls, 85 in hf bbls, and 90c in kegs.

SALT—There is a fair demand for California; otherwise market quiet. We quote California Bay at \$5@14; Carmen Island, in bulk, \$13; Liverpool Coarse, \$18@20; do Stoved, \$22.50 per ton.

San Francisco Retail Market Rates.

THURSDAY NOON, December 14, 1871.

| MISCELLANEOUS. | |
|-----------------------|----------|
| Butter, Cal. fr. lb. | 65 @ 70 |
| Pickled, Cal. fr. lb. | 45 @ 50 |
| do Oregon, lb. | 25 @ 30 |
| Honey, per lb. | 25 @ 30 |
| Choco., per lb. | 20 @ 25 |
| Eggs, per doz. | 60 @ 65 |
| Lard, per lb. | 18 @ 20 |
| Sugar, cr., 6½ lb | 10 @ 12 |
| Beet, do., 1 lb | 10 @ 12 |
| Sugar, Map. lb. | 25 @ 30 |
| Plums, dried, lb. | 15 @ 20 |
| Peaches, dried, 15 | @ 20 |
| Wool Sacks, new | 70 @ 75 |
| Second-hand do | 67½ @ 70 |

| PRODUCE, ETC. | |
|---------------------|--------|
| Flour, ex. per bbl. | 8 @ 25 |
| Superfine, do. | 6 @ 20 |
| Corn Meal, 100 lb | 3 @ 30 |
| Wheat, per 100 lb | 2 @ 40 |

| FRUITS, VEGETABLES, ETC. | |
|--------------------------|---------|
| Pine Apples, 1 lb. | 5 @ 10 |
| Bananas, per lb. | 3 @ 4 |
| Cal. Walnuts, lb. | 20 @ 25 |
| Cranberries, per lb. | 75 @ 80 |
| Pears, table, per lb. | 75 @ 80 |
| Plums, Cherry, 6 | @ 8 |
| Strawberries, lb. | 50 @ 55 |
| Oranges, per 100 lb | 5 @ 6 |
| Lemons, per 100 lb | 5 @ 6 |
| Limes, per 100 lb | 5 @ 6 |
| Figs, dried, per lb. | 5 @ 6 |
| Asparagus, wh. | 50 @ 75 |
| Artichokes, doz. | 5 @ 10 |
| Brussels sprigs, | 20 @ 25 |
| Beets, per doz. | 20 @ 25 |
| Potatoes, per lb. | 2 @ 3 |
| Potatoes, sweet, | 4 @ 5 |
| Broccoli, per doz. | 2 @ 3 |
| Cauliflower, 1 lb | 50 @ 55 |
| Cabbage, per doz. | 75 @ 80 |
| Carrots, per doz. | 10 @ 25 |
| Celery, per doz. | 15 @ 25 |
| Cress, per doz. | 15 @ 25 |
| Dried Herbs, lb. | 25 @ 50 |

| POULTRY, GAME, FISH, MEATS, ETC. | |
|----------------------------------|----------|
| Chickens, apiece | 63 @ 87½ |
| Turkeys, per lb. | 20 @ 25 |
| Ducks, wild, per lb. | 50 @ 60 |
| Tame, do. | 15 @ 20 |
| Teal, per doz. | 2 @ 3 |
| Geese, wild, pair | 75 @ 100 |
| Tame, per pair | 25 @ 30 |
| From Chicago, | 20 @ 25 |
| Hens, each | 75 @ 80 |
| Snipe, per doz. | 15 @ 20 |
| English, do. | 25 @ 30 |
| Venison, per lb. | 12½ @ 15 |
| Quails, per doz. | 2 @ 25 |
| Pigeons, dom. doz | 50 @ 60 |
| Wild, do. | 40 @ 50 |
| Hares, each | 40 @ 50 |
| Rabbits, tame, 50 | @ 60 |
| Wild, do. doz | 15 @ 20 |
| Squirrel, per pair | 25 @ 35 |
| Beef, tend, per lb. | 20 @ 25 |
| Sirloin and rib | 18 @ 20 |
| Corned, per lb. | 10 @ 12 |
| Smoked, per lb. | 15 @ 18 |
| Pork, rib, etc. | 12½ @ 15 |
| Chops, do. | 12 @ 15 |
| Veal, per lb. | 15 @ 20 |
| Cutlet, do. | 20 @ 25 |
| Mutton chops, | 12½ @ 15 |
| Leg, per lb. | 12½ @ 15 |
| Lamb, per lb. | 15 @ 18 |
| Sheathing, yellow | 75 @ 80 |
| Tongues, pig, ea | 15 @ 20 |
| Bacon, Cal. per lb | 18 @ 20 |

| POULTRY, GAME, FISH, MEATS, ETC. | | | | | | | |
|----------------------------------|----|---|------|------------------|----|---|----|
| Chickens, a piece | 63 | @ | 87½ | Oregon, do.... | 18 | @ | 20 |
| Turkeys, ♀ lb... | 20 | @ | 25 | Hams, Cal, ♀ lb. | 18 | @ | 20 |
| Turkeys, wild, ♀ p | 50 | @ | 1 00 | Hams, Cross' s o | | @ | 25 |

| IRON—Duty, \$7 per ton. | |
|--|------------|
| Cast, 1½ lb; Sheet, polished, 3c; common, 1½ lb | 14 @ 15 |
| Plate, 1½ lb; Pipe, 1½ lb; Galvanized, 2½ lb | 14 @ 15 |
| Scotch and English Pig Iron, per ton | \$35 @ 40 |
| White Pig, per ton | 45 @ 50 |
| Refined Bar, bar assortment, per lb. | — @ — |
| Refined Bar, good assortment, per lb. | — @ — |
| Boiler, No. 1 to 4 | — @ — |
| Plate, No. 5 to 9 | — @ — |
| Sheet, No. 10 to 13 | — @ — |
| Sheet, No. 14 to 20 | — @ — |
| Sheet, No. 24 to 27 | — @ — |
| Horse Shoes | 7 @ 8 |
| Nail Rod | 9 @ 10 |
| Norway Iron | 7½ @ 8 |
| Roller Iron | 5 @ 6 |
| Other Irons for Blacksmiths, Miners, etc. | 5 @ 6 |
| COPPER—Duty: Sheathing, 3½c per lb; Pig and Bar, 2½c per lb. | |
| Sheathing, per lb. | 24 @ 25 |
| Sheathing, Yellow | 24 @ 25 |
| Sheathing, Old Yellow | 11 @ 12½ |
| Composition Nails | 24 @ — |
| Composition Bolts | 24 @ — |
| TIN PLATES—Duty: 25 per cent. ad valorem. | |
| Plates, Charcoal, 1½ lb box | 12 @ 13 |
| Plates, I.C Charcoal | 10 @ 10.50 |
| Roofing Plates | 11 @ — |
| Banca Tin, Slabs, per lb. | — @ 45 |
| STEEL—English Cast, per lb. | 16 @ 17 |
| Drill | 17 @ 20 |
| Flat Bar | 17 @ 20 |
| Mough Points | 3 @ 7.50 |
| Russia (for mouldboards) | 12½ @ — |
| QUICKSILVER, per lb. | — @ 55 |
| Lead, per lb. | — @ 6½ |
| Sheet | — @ 8½ |
| Pipe | — @ 9 |
| Bar | — @ 9 |
| ZINC—Sheet, per lb. | — @ 10½ |
| Borax—Refined | 25 @ 30 |
| Borax, crude | 5 @ — |

San Francisco Metal Market.

[Corrected weekly by Hooker & Co., 117 and 119 Cal. street.]

PRICES FOR INVOICES

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

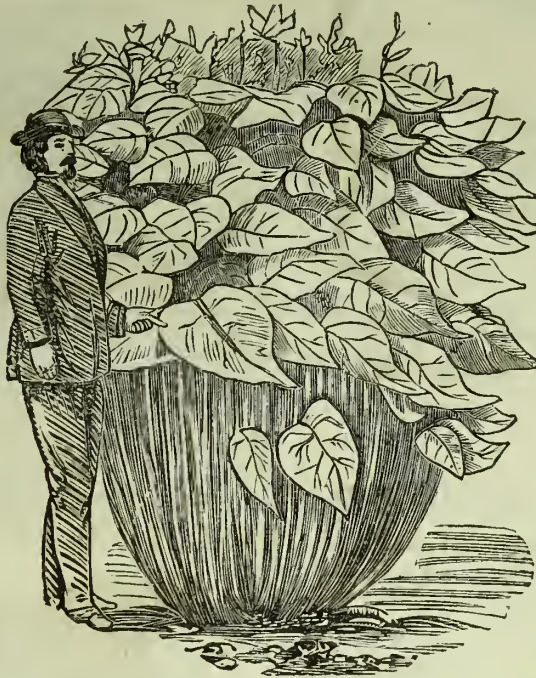
TUESDAY, December 14, 1871

| | | |
|--|---------|---------|
| IRON.—Duty: Pig, \$5 per ton; Railroad, 60¢ per 100 lbs; Bar, 1½¢ per lb; Sheet, polished, 3¢ per lb; common, 1½¢ per lb; Plate, 1½¢ per lb; Pipe, 1½¢ per lb; Galvanized, 2½¢ per lb. | | |
| Scotch and English Pig Iron, per ton | \$35 00 | @ 52 50 |
| White Pig, per ton | 45 00 | @ |
| Refined Bar, bar and assortment, per lb. | — | @ — |
| Refined Bar, good assortment, per lb. | — | @ — |
| Boiler, No. 1 to 4 | — | @ — |
| Plate, No. 5 to 9 | — | @ — |
| Sheet, No. 10 to 13 | — | @ — |
| Sheet, No. 14 to 20 | — | @ — |
| Sheet, No. 24 to 27 | — | @ — |
| Horse Shoes | 7 50 | @ |
| Nail Rod | 9 | @ |
| Norway Iron | 7½ | @ |
| Roller Iron | 5 | @ |
| Other Irons for Blacksmiths, Miners, etc. | 5 | @ 6 |
| COPPER.—Duty: Sheathing, 3½¢ per lb; Pig and Bar, 2½¢ per lb. | | |
| Sheathing, per lb. | 24 | @ 25 |
| Sheathing, Yellow | 24 | @ 25 |
| Sheathing, Old Yellow | 11 | @ 11½ |
| Composition Nails | 24 | @ |
| Composition Bolts | 24 | @ |
| TIN PLATES.—Duty: 25 per cent. ad valorem. | | |
| Plates, Charcoal, 1X per box | 12 00 | — |
| Plates, 1 C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 11 00 | @ |
| Bacon Tin, Sheet, per lb. | — | 45 |
| SHEET.—English Cast, per lb. | 16 | 17 |
| Drill | 16 | 15 |
| Flat Bar | 17 | 20 |
| Plough Points | 3 75 | @ |
| Russia (for mouldboards) | 12½ | @ |
| LEAD AND SILVER.—Duty: 5 per cent. | | |
| Lead, per lb. | — | @ 55 |
| Sheet, per lb. | — | @ 6½ |
| Quicksilver | — | 8½ |
| Pipe | 9 | 10 |
| Bar | — | 9 |
| ZINC.—Sheets, per lb. | 10 | @ 10½ |
| BORAX.—Refined | 25 | 30 |

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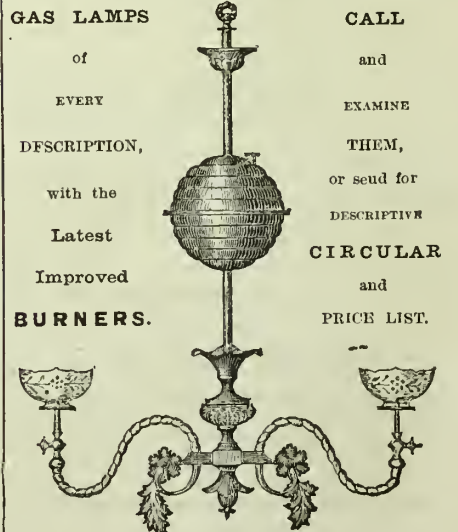
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- G. L. Porter, Virginia City, Nevada, overdue ten days at time of death, \$2,500.
- L. G. Peel, Walnut Creek, California, overdue eleven months at time of death, \$5,000.
- J. H. Cadden, Princeton, California, overdue four months at time of death, \$3,000.
- J. Levison, Boise City, I. T., overdue two months at time of death, \$10,000.
- C. W. Salter, Horr's Ranch, California, overdue two months at time of death, \$5,000.
- C. O. Stevens, Danville, California, overdue one month at time of death, \$5,000.

THE MAIN POINTS OF THE LAW UNDER WHICH THE ABOVE CLAIMS WERE PAID.

No Insurance on Life shall be forfeited by non-payment of premium. The net value of the Policy shall be ascertained at the time of the lapse of the premium, and be considered a net single premium of temporary insurance. If the death of the party occurs within the term of temporary insurance, the Company shall be bound to pay the whole policy the same as if there had been no lapse of premium; provided, the Company shall have the right to deduct from the face of the Policy the amount of premium due, with interest, at the date of death.

THE NEW ENGLAND MUTUAL LIFE INSURANCE COMPANY

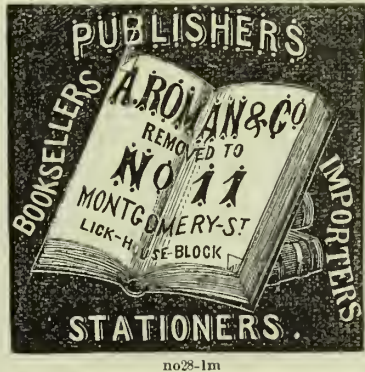
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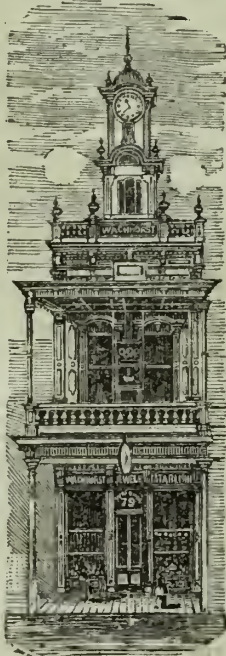
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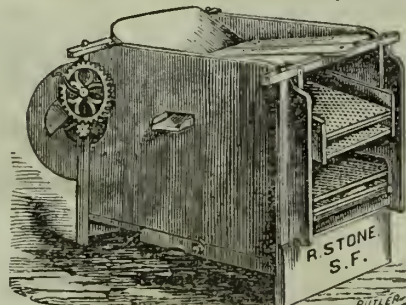
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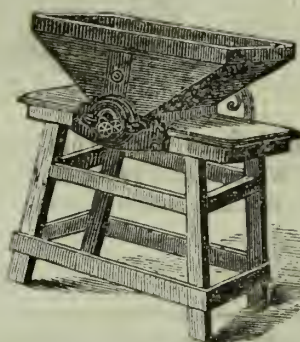
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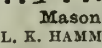
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Pescadero—Fifty-two miles from San Francisco—is one of the most delightful places of resort on the Pacific Coast. Its Beautiful Drives, Beaches of Moss, Pebbles and Shells, Forests, Sparkling Streams, Hunting and Fishing, cannot be surpassed.

TH SWANTON HOUSE, at this place, is all the Tourist could ask, for comfort and convenience; C. W. Swanton, Proprietor.

Santa Cruz has similar advantages and additional bathing facilities. Parties taking the morning train of the San Jose Railroad, on arriving at San Mateo, will find Wellington & Son's First-class Six Horse Coaches, to convey them to Pescadero, arriving at 3 o'clock P. M. Through tickets at the Railroad Office, \$3.85. Connecting with the Santa Cruz and Pescadero State Line, which leaves Pescadero every Tuesday, Thursday and Saturday, and leaves Santa Cruz on alternate days. Fare, \$3.00. Wm. H. Bias, Proprietor. Through distance from San Francisco, 90 miles—the most beautiful of any similar distance on the Pacific Coast. 12v2-3m

DEALERS AND CONSUMERS

Are hereby notified that

THE STANDARD SOAP COMPANY

Continue to manufacture the following Standard Preparations:

Deterative, Prize Medal and Laundry Soaps;

Kane's Condensed Soaps;

Thomas' Cool Water Bleaching Soaps;

Standard and Eureka Washing Powders;

Madame Balcear's Washing Fluid and Liquid Bluing.

Adamantine Candles, and a general assortment of Family, Laundry, Fancy and Toilet Soaps.

Manufactory, 204 and 206 Sacramento street, San Francisco, 21v2-3m

CO-OPERATIVE MARBLE WORKS.

JOHN DANIEL & CO.,

Manufacturers of and Dealers in

Monuments, Headstones, Tombs,

MANTEL PIECES, ETC.,

421 Pine street, between Montgomery and

Kearny, SAN FRANCISCO. 21v2-1y



FINE LIVERY.

-THE-

Finest and Most Complete Livery Stable, together with the Best Turnouts in the State, are at WATSONVILLE, Cal. BILLINGS & ALEXANDER, Proprietors.

P. S.—Their new Hotel will be in full blast within fifteen days from this date. oc21-3m*

FARM FOR SALE

At the ELEVEN MILE HOUSE, San Mateo County, containing 26½ acres of good land; a large house; school and Bar; Barns, Outhouses, Wagon, Farming Implements, etc. Will be sold cheap. de9-1f

HILL'S PATENT EUREKA GANG PLOW,



The undersigned, Manufacturers of "HILL'S PATENT EUREKA GANG PLOWS," take this method of calling the attention of Agriculturists throughout the Pacific States and Territories to the merits of the above named Plows, and offer the following reasons why they are entitled to preference over any other Plow in use.

They are made of the best material, and every Plow warranted.

They are of light draught, easily adapted to any depth, and are very easily handled.

They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!

These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,

which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by

HILL & KNAUGH,

And also by most leading Agricultural Dealers in the State. All others are invited to apply at once for Circulars, prices, etc. 16v23-tf

MATTESON & WILLIAMSON'S



Took the Premium over all at the great Plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over eradic knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the Best and Most Desirable Gang Plow in the world. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

14v2-3m

Holbrook's Patent Swivel Plows, For Level Land and Side Hill.



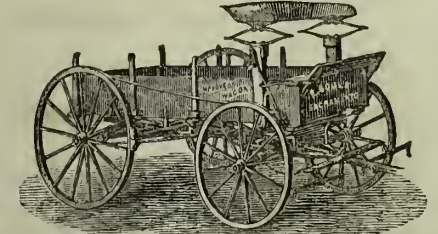
8 Sizes. **WON THE HIGHEST PRIZE** at N.Y. State Trial, 1870, for Plowing Sod & Stubble.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting, self-clearing hinged steel Cutters. Changeable Mould-boards for sod and stubble.

They are particularly well adapted for reclaiming Bog Meadows, with the Patent Steel-Edged Swivel Share and Side Draft Clevis.

Manufactured and sold by

F. F. HOLBROOK & CO.,
Boston, Massachusetts



FIRST PREMIUM AWARDED at the State Fair of 1870; also First Premium at Mechanics' Fair, San Francisco, 1871; and Silver Medal and First Premium for best Farm Wagon, and First Premium for the best improved Thimble Skein at State Fair, 1871. Also State Fair GOLD MEDAL for 1871.

E. SOULE,

Corner Tenth and I streets,
SACRAMENTO, CAL.

ap22-3m

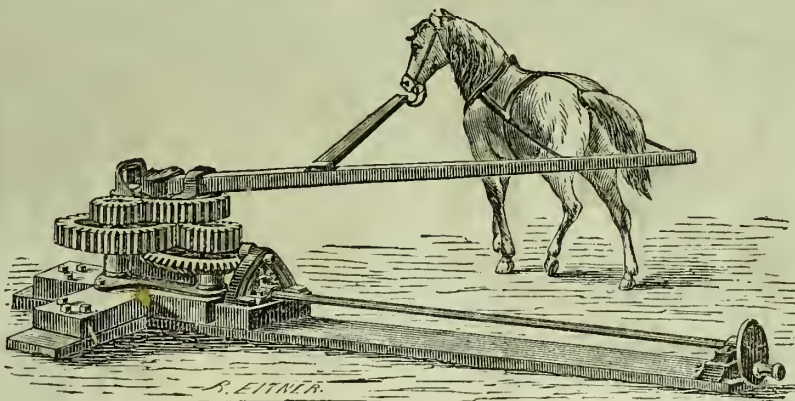
JACKSON MICHIGAN WAGONS.



The large sale of the above WAGONS has induced a number of persons to try and sell other Eastern-made Wagons, none of which have any proof that they will stand in this dry climate. JACKSON WAGONS have the highest certificates from use for ten to fourteen years, consequently the buyer runs no risk in purchasing the Jackson Wagons. All sizes for sale low by

J. D. ARTHUR & SON, San Francisco,
N. B.—Warranted for three years. 21v2-3m

ATWOOD & BODWELL,



MANUFACTURERS OF

EXCELSIOR AND GOLDEN STATE WIND MILLS,

LITTLE GIANT HORSE POWERS,

PUMPS AND WATER TANKS,

Nos. 211 and 213 Mission Street, SAN FRANCISCO.

N. B.—We have made the manufacture of the above Machinery a Specialty for the past ten years, and guarantee all our work. 4v2-1am3m



EUREKA



AND

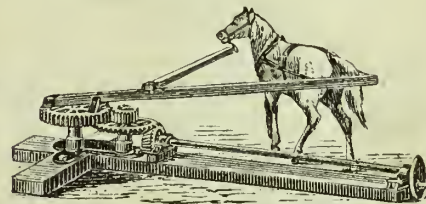
Patented November 23, 1869.

These Mills have stood the test and received the First Premium at the Mechanics' Fair in this city, and we challenge the world to produce their equal in point of Beauty, Strength, Durability and Simplicity.

They are the most easily controlled, run with the lightest wind, and are the least liable to get out of order of any Mill yet before the public.

We use the best material, and our workmanship is superior to all other in the State. All of the above we guarantee.

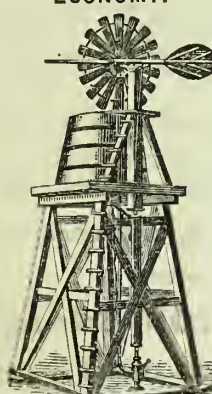
ECLIPSE HORSE POWER.



Windmills of all sizes, Horsepowers and Tanks, by W. I. TUSTIN,

Pioneer Windmill Manufacturer, Corner Market and Beale streets..... SAN FRANCISCO. se16-1am3m

ECONOMY.



BAKER & HAMILTON,

Sacramento and San Francisco.

—IMPORTERS OF—

HARDWARE,

Farming Implements,

Machines, Etc., Etc.

Gang Plows,

Single Steel Plows,

Iron Plows,

Harrows,

Cultivators,

Seed Sowers,

Grain Drills,

Etc. Etc.

18v2-3m

J. ROCK'S NURSERIES,

SAN JOSE.

Fruit and Ornamental Trees.



The attention of every Planter, Nurseryman and Dealer is called to our large and superior stock of



Fruit and Ornamental Trees,

Grape Vines and Small Fruits,

Shrubs and Plants, Etc., Etc.,

IN LARGE QUANTITIES, AT LOWEST RATES.

Catalogue furnished on application.

21v2-tf

JOHN ROCK, San Jose, Cal.

TREES

AND PLANTS FOR SALE AT THE LIBERTY NURSERIES,

Petaluma, Cal.

The stock I offer for sale this season is as varied and complete as can be found at any Nursery on the Pacific Coast. It consists of

Apples, Pears, Plums, Peaches, Apricots, Nectarines, Figs, Quinces, Cherries, Oranges, Pomgranates, Mulberries, Grapes, Currants, Gooseberries, Blackberries, Raspberries, Strawberries, etc.

Almonds, English Walnuts, California and Eastern Black Walnuts, Butternuts, American, Japan and Spanish Chestnuts.

Locusts, Maples, Elms, Poplars and Willows.

Evergreen Trees and Shrubs in great variety. Proliferous Flowering Shrubs in variety, including a choice collection of Roses.

Also a choice collection of Bedding and Conservatory Plants, selected from the best new varieties (importation of 1871).

For complete list send for Descriptive Catalogue. The above stock of Trees and Plants will be sold

At the Lowest Market Rates

of the reliable Nurserymen, and guaranteed to be true to name and label.

All orders from unknown persons must be accompanied with the Cash.

TREES packed in the best manner and delivered to Railroad or Boats in Petaluma for shipment to all parts.

Address

W. H. PEPPER,

21v2-3m

Petaluma, Cal.

Seed! Seed! Seed!

Wheat—Algiers, Australian, Sonora, Club Chile, Oregon.

Oats—Norway, Oregon, Surprise, Coast, Wild.

Peas—Canada, Windsor, Waco.

Buckwheat—Oregon, Chattfield, Humboldt Co.

Corn—Southern, Eastern.

Flax Seed—California, Oregon.

Potatoes—Early, of all kinds.

IN LOTS TO SUIT, BY

R. M. CHAMBERLIN & CO.,

N. E. Corner Clay and Davis streets, Produce Exchange Building, San Francisco.

Depot for the Pacific Oil Cake Meal. 10v2-3m

W. R. STRONG,

Commission Merchant,

And Wholesale Dealer in every description of

SEEDS,

California and Tropical Fruits, Nuts, Honey,

and Agricultural Produce,

Nos. 8 and 10 J Street, SACRAMENTO.

Orders for all classes of Merchandise filled and forwarded with dispatch. 5v2-3m

KELSEY'S NURSERIES.



OAKLAND.

Established in 1852.

CITY DEPOT,

317 Washington Street..... SAN FRANCISCO.

The Proprietor having upwards of

100 ACRES OF NURSERY GROUNDS,

well stocked with all the leading and best varieties of Fruit Trees and Fruit Bushes; also Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms and with dispatch.

Choice Roses and Pot Plants

of every variety. Trees and Plants securely packed to travel any distance.

FOREST TREES

of Australia, Europe, China and Japan; In fact, we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty, in furnishing a place without being obliged to go from one Nursery to another. W. F. KELSEY, Proprietor. 21v2-3m

Seeds! Seeds!

New California raised ALFALFA CLOVER SEED, sold in quantities at J. P. SWEENEY & CO.'S

Seed, Tree and Plant Warehouse,

409 and 411 Davis street, San Francisco.

Surprise Oats,

At \$8 per 100 lbs. All kinds of

Seeds, at Wholesale and Retail,

Sold by J. P. SWEENEY & CO.,

409 and 411 Davis street, S. F.

Ramie!

ROOTED PLANTS,

Of the above valuable textile, raised in this State, for sale by the undersigned, in lots to suit, where further information in regard to Soil, Cultivation, etc., will be given.

Inquire of

J. P. SWEENEY & CO.,

Seedsmen, 409 Davis street, S. F.,

Or of

JOSEPH GRAHAM,

22-v2-3m

Haywards', Alameda Co., Cal.



TREES AND PLANTS

By the 100, 1,000 or 100,000, both

Wholesale and Retail, at the

Lowest Market Rates, at the CAPITAL NURSERIES, SACRAMENTO, CAL.

Send for Catalogue, Price List and printed directions,

ROBERT WILLIAMSON, Proprietor.

Office and Tree Depot at U street, between Fifteenth and Sixteenth streets, Sacramento, Cal. 22v2-1m

New Seeds and Plants.

Just received, a prime lot of NEW ALFALFA CLOVER SEED HYACINTH GLASSES, DUTCH BULBS, Etc. Always on hand a fine assortment of all kinds of SEEDS, BULBS, PLANTS, FRUIT TREES, at the Old Stand.

E. E. MOORE,

Importer of Seeds, Bulbs, Plants, Etc.,

425 Washington street, San Francisco, Cal.

Send for a Catalogue. 16v2-tf

1871.

1871.

Farmers, Look to Your Interests.

GRASS, CLOVER AND FIELD SEEDS

On hand, in lots to suit, at lowest market rates. Genuine Alfalfa California grown, Red and White Clover, Timothy Seed (Oregon and Eastern grown), Genuine Norway Oats, Also, choice varieties Seed Potatoes, Peas, Beans, Cabbage, Onion and Melon Seeds. Address JOHN C. DALY, No. 25 Front street, Sacramento. P. O. Box, No. 519. 16v2-3m

H. K. CUMMINGS.

1868.

J. M. MAXWELL

1871.

HENRY K. CUMMINGS & CO.,

Wholesale Fruit and Produce Commission House,

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with those of the producer. 4v23-ly

Orange Trees! Orange Trees!!

I now offer to Planters and Dealers a large and splendid stock of ORANGE, LEMON, LIME, and ENGLISH WALNUT TREES. Also, a limited amount of

Grafted Orange on Lemon Stock.

At Lowest Market Rates. Address P. O. Box 265, Los Angeles, Cal. 13v2-6m

THOS. A. GAREY.

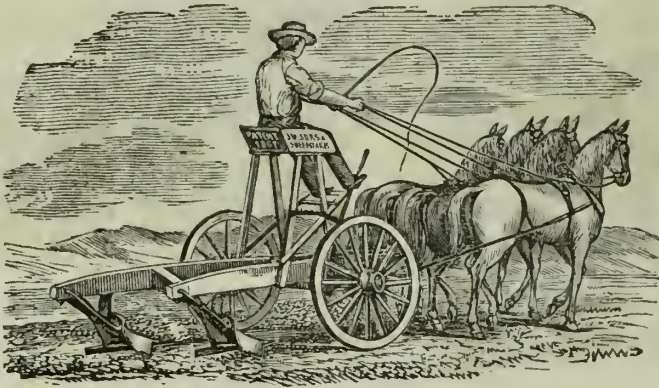
SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address STORRS, HARRISON & CO., 1v2-6m Painesville, Lake Co., Ohio.

THE CELEBRATED CALIFORNIA SWEEPSTAKE GANG PLOW.

HUIE'S PATENT GANG PLOWS---PRICES REDUCED.

Cheapest and Best Gang in the U. S.



2,000 in use in California.

SWEEPSTAKE GANG PLOW.
Sursa's Patent.

The extraordinary sale of this Gang Plow during the past four seasons, is owing to its possessing so MANY IMPORTANT ADVANTAGES OVER ALL OTHER GANGS IN THE MARKET, among which are the following:

The remarkable simplicity of its construction renders it impossible for it to get out of order, and enables them to be built exceedingly strong and light.

By means of powerful levers, conveniently placed, it is raised quickly and easily out of the ground, or readily pressed into it.

It will plow from one to ten inches deep, and ALWAYS retains a level position at any desired point. No other attempts this.

It is the most portable plow in use, and is the neatest and most compact.

The draft is very light, and a boy ten years old can plow as much as two men with single plows, and in a much superior manner.

Extra parts can be obtained at the factory, and are warranted to fit, as all are made from the same pattern.

Those offered for sale the present season are greatly improved, have two levers, and made in the most thorough and workmanlike manner possible, with previous defects corrected, and several important improvements added.

The extensive sale of the Sweepstake Gang has induced numerous imitators to put in market inferior Gangs, which are weak, clumsy, and void of any of the essential points which make a good Gang.

The SWEEPSTAKE GANG is the standard of merit by which all others judge their Gangs, and many use the name to sell their inferior article. The Sweepstake Gang is only manufactured by the SWEEPSTAKE PLOW Co., at San Leandro, and farmers should order direct of us, or see that they get the SWEEPSTAKE GANG, and not an imitation.

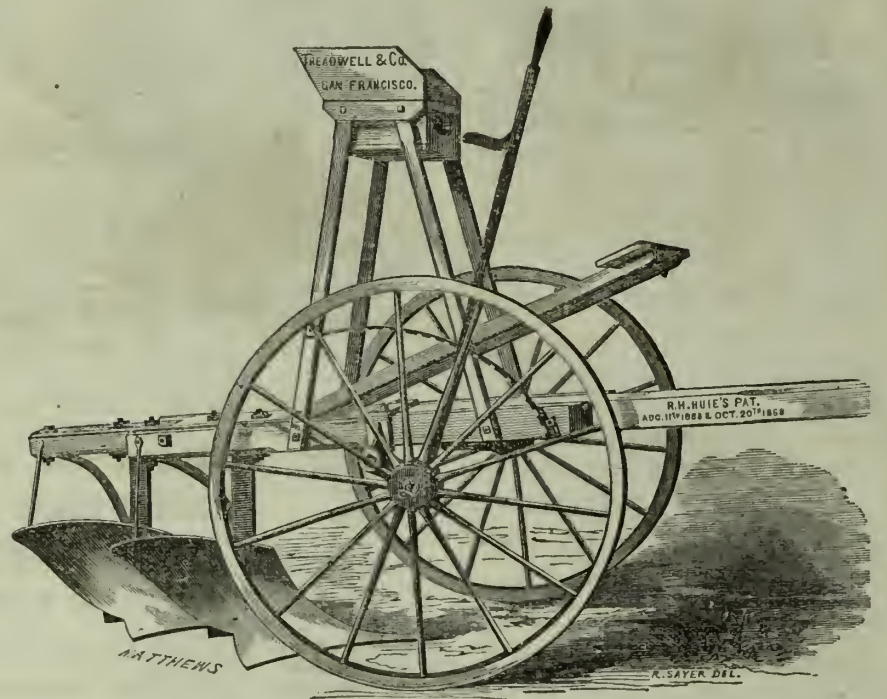
No Gangs Sent on Commission. Orders Filled as Received.

PRICES at SAN LEANDRO: With two extra Points, \$75; with Collins' Moulds, Points and Lands (no extra points), \$85. TERMS CASH.

SWEEPSTAKE PLOW COMPANY, SAN LEANDRO.

OFFICE—13 to 19 Front street, San Francisco.

BAKER & HAMILTON, Sole Agents,
San Francisco and Sacramento.



HUIE'S PATENT GANG PLOW.

Having purchased the Gang Plows imported by Treadwell & Co., at very low figures, we are enabled to offer them at greatly reduced prices—below the cost of importation—giving a Gang combining

Simplicity, Utility, Durability and Low Price.

They are selling very rapidly and we would advise early orders. This is the cheapest GOOD Gang offered. Being boxed, the transportation is low.

Price of Steel Gang, \$60. Price of Collins' Gang, \$75. Without Extra Shares.

For an order of five Huie Steel Gangs we will take off ten per cent. Address

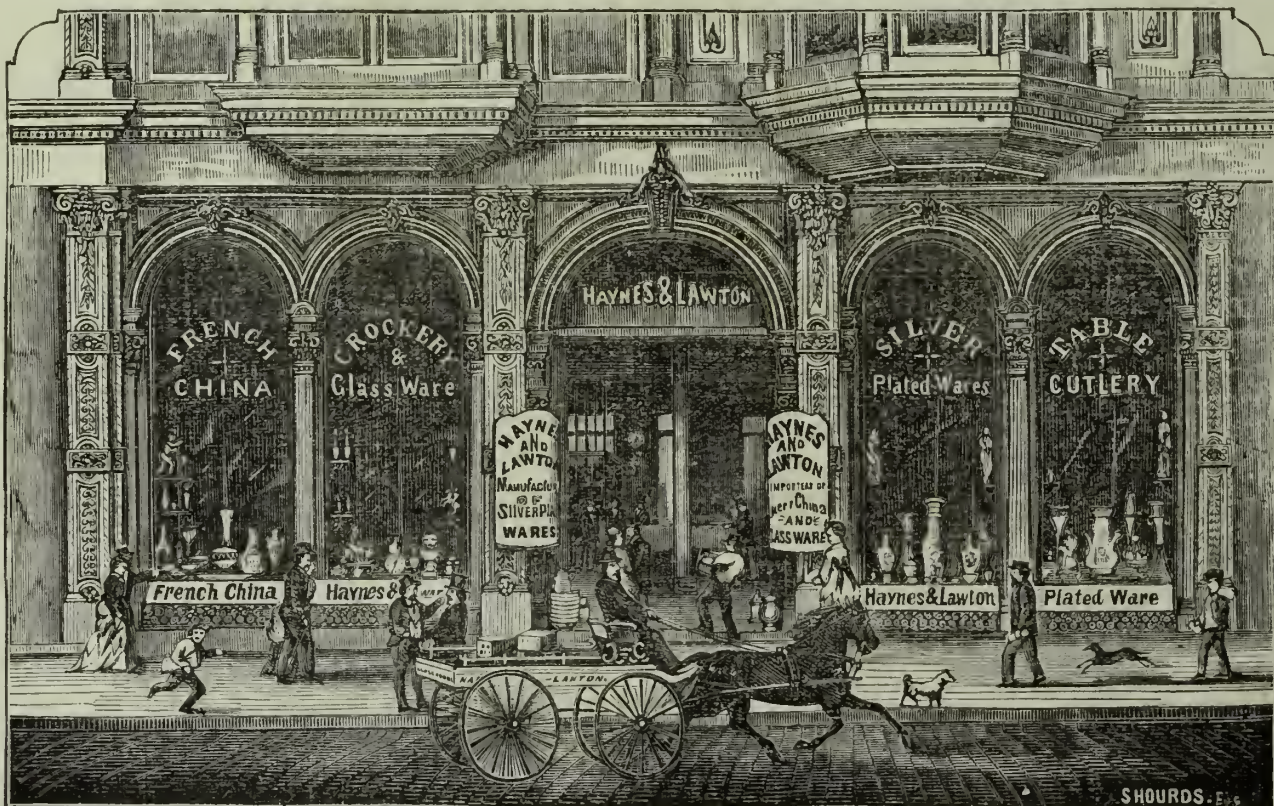
BAKER & HAMILTON,

Manufacturers and Importers of all kinds of Agricultural Instruments and Hardware,
22v2-1m
SAN FRANCISCO AND SACRAMENTO.

HAYNES & LAWTON,

MARKET STREET, UNDER THE GRAND HOTEL.

HAVE THE
LARGEST
Crockery
and
Glassware
SALESROOM
in the
UNITED STATES;
Filled with
Wares
Suitable to the
WANTS OF ALL
Classes,
from the
HUMBLE
LABORER
to the
Millionaire.



IMPORT ALL
the
EARTHENWARE,
Porcelain
and
GLASSWARE
direct from the
FIRST FACTORIES
of
Europe and America,
and sell,
BY THE SINGLE PIECE
or
BY THE CRATE,
to
SUIT ALL BUYERS.

Being the only Manufacturers of Silver-Plated
Wares on the Pacific Coast,

THEY ARE ENABLED TO FURNISH THEIR PATRONS WITH WARES SILVER-PLATED TO ORDER,

And at the Lowest Market Rates.



A Farmers' Club for Sacramento.

Pursuant to adjournment, as noticed in our last issue, a meeting of farmers of the vicinity of Sacramento, was held at the rooms of the State Agricultural Society on Saturday evening last, to complete the organization of a Farmers' Club. After receiving the report of the Committee on Constitution and By-Laws, the Meeting proceeded to the election of officers, with the following result: President, Judge S. N. Baker, of Brighton; Vice Presidents, W. S. Manlove and James Holland; Secretary, I. N. Hoag; Treasurer, A. S. Greenlaw.

These officers constitute a Board of Directors to manage the affairs of the Association. The by-laws provide that at each regular meeting of the Club a discussion shall follow on some topic of general interest to agriculturists. In this way much valuable information may be disseminated and the agricultural and horticultural interests of the State greatly benefitted. Persons may become members of the Club by the payment of one dollar initiation fee, and fifty cents per month for dues. The next meeting of the Club will be held on Saturday afternoon (to-day) at the same place.

It seemed to be the general opinion that the principal object to be attained by the organization contemplated, should be the collection and diffusion of practical information on all subjects connected with agriculture in its broadest sense. The subjects to be commented on and discussed should be appropriate to the season and should be such as would give useful information to the members of the Club and to others who would read the discussion in the press, upon practical operations on the farm, in the vineyard, orchard and garden.

The reason why many of the associations of this character have failed was that they had attempted to accomplish too much. It was better to do well and satisfactorily a few things than to undertake to do so much that nothing would be well done.

Mutual protection associations and associations for the purpose of regulating the price of labor or of the products of the farm might be good in their place and at a proper time, but they would confine the discussions of the club here to be formed, more closely to agricultural and horticultural subjects proper.

There have been produced in this vicinity many new kinds of fruit—seedling pears, apples and peaches and other fruits; these are known to the producers under names given by them, and although many of these are very valuable, and ought to be generally cultivated, they are not known or recognized beyond the immediate locality in which they were originated. One of the objects of this club should be to encourage the production of new varieties of fruits, to give uniform names to the valuable kinds, adopt a standard description and thus bring them into general cultivation and use. The time of planting and manner of cultivating the common vegetables, grains, etc., and the introduction and propagation of new and rare varieties would receive the attention of the club. The subject of stock raising and the breeds best adapted to this climate should also not be forgotten.

The subjects to be discussed at each meeting will be selected at the previous meeting and some member best acquainted with that subject be designated to lead off in its discussion either orally or by a short essay.

BEST'S GRAIN SEPARATOR.

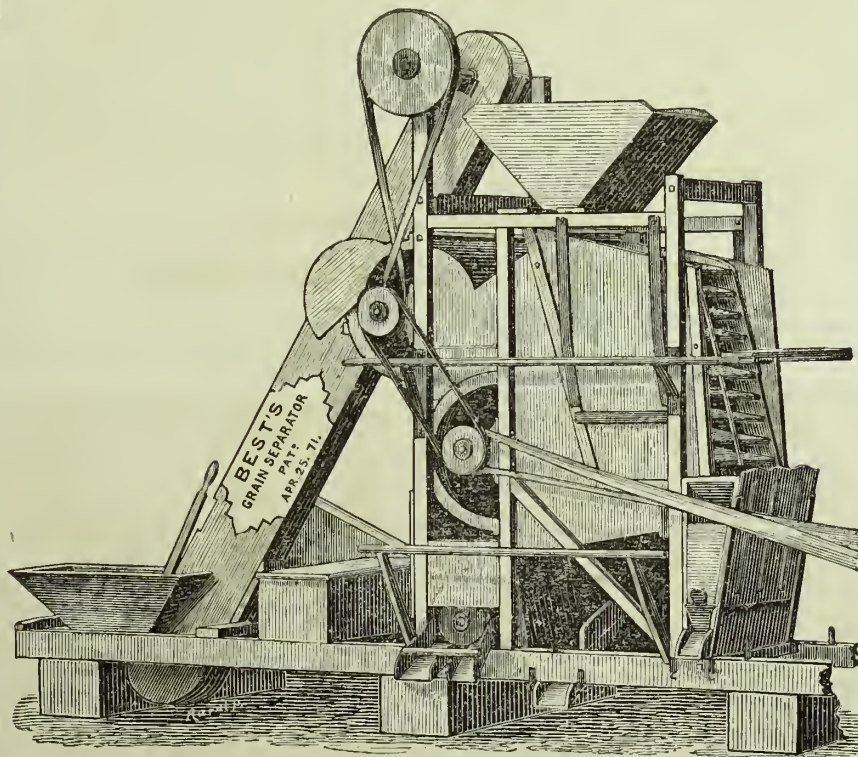
Our illustration represents an improved grain separator, the peculiarities of which principally consist in the employment of a series of peculiarly-shaped screens, for the purpose of separating and cleaning the different qualities of grain; and also the use of feeding and returning elevators, by which the grain can be fed to the hopper with very little labor, and by which it can be returned to the hopper for a second cleaning, if desired.

The discharge spout for the second quality of grain is so arranged that it will either discharge the grain immediately, or

arated by a riddle consisting of a series of vanes placed at an angle, so that by their action they direct the wind from the fans forward and upward to the upper series of screens.

The frame which contains the screens and the riddles, has a side-shaking motion given to it by means of the bell crank connected with the crank or eccentric wheel, so that all the screens have the same motion. The screens are given a peculiar downward curve near their rear end so as to facilitate the discharge of grain after it has passed beyond the reach of the blast.

The lowermost screen, which finally receives and retains the good wheat, is separated from the upper set, and has a peculiar tossing motion given it, so as to thor-



BEST'S IMPROVED GRAIN SEPARATOR.

allow it to pass to the returning elevator, if it is not sufficiently cleaned. The first quality of grain is allowed to fall upon a screen, which has a peculiar tossing motion, and which throws it into the discharge spout, or, by reversing the movement, the grain can be kept in the screen as long as desired.

A set of angular plates are introduced between the screens, and by their action, and the shape of the screens, the blast is directed forward instead of backward. The discharge spouts are constructed so as to operate separately or together. The machine can either be used as a stationary one, or can be moved about at will by being placed on wheels.

At one end of the frame is placed a hopper, which is low, so that the grain can easily be discharged into it. An elevator takes the grain from the hopper and carries it to the upper one. From the latter the grain passes to the cleaning apparatus, its discharge being regulated by an adjustable gate. The cleaning screens are all secured in one frame, in two sets, which are sep-

arated by a riddle consisting of a series of vanes placed at an angle, so that by their action they direct the wind from the fans forward and upward to the upper series of screens.

This improved machine is the invention of a thoroughly practical man and deserves general attention. The patent was taken out through the Scientific Press Agency, by Daniel Best, of Yuba City, Yuba county, Cal., who may be addressed for further information at that place.

ADVANCE IN PRICES.—The stormy weather interfering with supplies and the increased demand for the coming holidays, have materially increased the prices of poultry and game as will be seen by reference to our Market Reports. All kinds of fresh meat have also experienced an advance. The late storm has made quite a difference in nearly all kinds of produce as well, which is, however, but temporary. Grains have declined, from the assurance which the rains bring of a large crop next season,

Furnace for Using Straw as Fuel.

A new furnace and fire-box for utilizing straw and stubble as fuel, in threshing and doing other work upon farms, by steam power, is being used with great success in Germany. It is known as Maly's Patent, and is manufactured in England, by R. Garratt & Sons. In Hungary, an experiment made with one of these machines resulted as follows: An engine of 16-horse power, threshed 480 bushels of grain in 12 hours, and the amount of straw used was of the same weight as half a cord of oak wood. Although wood is cheap in that country, the comparative expense of straw and wood as fuel, for the machine, was in the proportion of two to fourteen. By the arrangement of fire grates, the furnace can be used for the consumption of wood, straw and wood or straw alone. This invention if introduced into California, would be of great benefit to some farmers, and would make a vast saving in the expense of fuel. The entire machine is upon wheels and can be moved from place to place, with the same ease as a common road wagon.

THE FARMERS' AID MOVEMENT.—The committee which was sometime since appointed at a meeting of merchants in this city to solicit subscriptions to the Relief Association, which contemplated a temporary loan to such farmers as were in need of aid to purchase seed, etc., having succeeded in getting only \$12,000, a sum considered entirely inadequate to the end proposed, made their final report, and dropped the matter. This result is hardly creditable to a city which has just sent off such a large sum of money as a free gift to the Chicago sufferers, but few of whom are much, if any worse off than those at our own doors to whom it was proposed to make a mere temporary loan to help them out of a calamity, almost as disastrous to them, and quite as unavoidable as was that which visited Chicago.

Perhaps, however, the parties who, a few days since declined to take what they termed "unnecessary risks," may now, under the changed condition of things, when good crops, and thereby undoubted security is promised, be willing to come forward with the still needed aid. With all the rain, thousands of acres belonging to impoverished farmers, cannot be seeded unless seed is furnished by some such means as above contemplated. It is to be hoped that another and a successful trial will be made, and the hearts of the struggling farmers thus be made twice glad.

CHLORIDE OF LIME TO DRIVE AWAY VERMIN. Chloride of lime is used extensively in many parts of Germany to drive away insects, butterflies, rats and mice. Farmers report that if sprinkled on the ground, no vermin will approach the locality. Have California farmers tried it for getting rid of squirrels and gophers? Killing them would be better; but if they were closely followed up, by placing some substance in their holes, the presence of which they could not endure, it might so discourage them that they would eventually disappear entirely. The remedy is cheap, and will not interfere with any of the useful animals.

MECHANICAL PROGRESS.

Fire-Proof Roofs.

Wiseacre theoretical, and practical men with hobbies to ride or axes to grind, have written elaborate articles on the merits of Joliet marble, Lake Superior granite, good lime, iron-joists, iron-shutters, etc.; but very little has been said about tar and gravel roofs, and galvanized iron cornices with wooden backing.

It has been claimed, that the tar, felt, and gravel covering, is absolutely fire-proof. The genial tar and gravel-roof builders will tell you so, and produce certificates from John Smith, William Jones, Richard Roe and other respectable citizens whose places of residence cannot be found on the latest postal route map, to the effect that they were present when an attempt was made to burn a fire-proof tar and gravel roof, of John Doe's patent. Mr. Doe is anxious to have you see for yourself; builds the roof and puts on a coating of gravel from an inch and one-half to two inches thick. The experiment proves an apparent success. Six or eight months or a year later, after the heavy rains shall have swept a large quantity of the gravel down the water-spout, examine the roof. Square yards of the roof will then be found to be as bare of gravel as an ostrich egg of hair. Black, ill-smelling pitch, blisters and swells, and gradually melts in the summer sun. A burning brand from a fire two blocks away lights on the roof; a gentle wind fans the tickling blaze into a ruddy glow; the house burns from garret to cellar, and the whole disaster is attributed to Providence, with rather indefinite allusions to Sodom and Gomorrah.

The galvanized-iron cornice, with the wooden backing, is another gigantic fraud. The Pacific Hotel, in Chicago, was ornamented with one. Wooden strips were inserted in the walls, and to these was tacked the galvanized iron. An exposed corner, where two or three inches of this wooden backing were visible, was seized upon by the fire on the fatal Monday morning, and in a few hours the proud building was gutted from top to bottom. The wooden strips, or cornice backing, communicated with the joists of the roof, and the building went down.

What is, then, a fire-proof roof? We answer: a roof made of tiles. These tiles can be made of good clay, laid in cement, or else of artificial pavement, similar to that put down last summer at the north-west corner of the Court House square. They are non-conductors of heat, and neither expand nor contract with the changes in our temperature. Being smooth, every rain storm washes them as clean as if done with a hose. Fire-brands are powerless to crack them; the wind cannot loosen them; snow drifts can be swept off as easily as from the pavement. They are impervious to weather, and are no more destructible by fire than a well-burned brick.

Galvanized cornices, where anchored to wooden strips in the wall, should be summarily condemned, and instantly removed by the fire authorities, and iron rods substituted for the wooden plates. Tar and gravel roofs should be rigorously prohibited from the fire limits, and, like shingle roofs, their use should be limited to isolated risks in the suburbs, or in the country.

SOME experiments have lately been made at Sandy Hook, for the purpose of solving the problems involved in steam-boiler explosions. The experiments were highly interesting in themselves, and promise some excellent practical results. A boiler constructed exactly on the model of the one which burst on the Westfield, out of precisely similar iron, and as nearly as possible the counterpart of it, required a pressure of nearly two hundred pounds to the square inch to explode it, while that of the Westfield was carrying but twenty-seven pounds five minutes before the explosion, with its safety-valve weighed to thirty-five pounds.

WANTED—STONE-QUARRYING MACHINERY. In speaking of the stone quarries in the neighborhood of New York City, the *Times* says: "What is most wanted in these quarrying regions is a little more enterprise and tact; men who can invent and apply approved methods for handling and working stone. The problem of transportation also needs an infusion of brains and energy. Capital is also needed, but that is fast coming and will soon be plenty enough."

Improvement in Architecture.

The earliest periods were characterized by the utmost simplicity of invention and construction. Later, the efforts for defence from enemies and for architectural display, which have always employed so much time and power, began to be made. The megalithic period has left traces over much of the earth. The great masses of stone piled on each other in the simplest form in Southern India, and the circles of stones planted on end in England at Stonehenge and Abury, and in Peru at Sillustani, are relics of that period. More complex are the great Himyaritic walls of Arabia, the works of the ancestors of the Phœnicians in Asia Minor, and the Titanic workmanship of the Pelasgi in Greece and Italy. In the iron age, we find granitic hills shaped or excavated into temples; as, for example, everywhere in Southern India. Near Madura the circumference of an acropolis-like hill is cut into a series of statues in high relief, of sixty feet in elevation.

Easter Island, composed of two volcanic cones one thousand miles from the west coast of South America, in the bosom of the Pacific, possesses several colossal ent from the intrusive basalt, some in high relief on the face of the rock, others in detached blocks removed by human art from their original positions and brought nearer the sea-shore.

Finally, at a more advanced stage, the more ornate and complex structures of Central America, of Cambodia, Nineveh and Egypt, represent the period of greatest display of architectural expenditure. The same amount of human force has perhaps never been expended in this direction since, though higher conceptions of beauty have been developed in architecture with increasing intellectuality.

Man has passed through the block and brick building period of his boyhood, and should rise to higher conceptions of what is the true disposition of power for "him who builds for aye," and learn that "spectacle" is often the unwilling friend of progress.

No traces of metallic implements have ever been found in the salt mines of Armenia, the turquoise quarries in Arabia, the cities of Central America, or the excavations for mica in North Carolina, while the direct evidence points to the conclusion that in those places flint was exclusively used.

The simplest occupations, as requiring the least exercise of mind, are the pursuit of the chase and the tending of flocks and herds. Accordingly, we find our first parents engaged in these occupations. Cain, we are told, was in addition, a tiller of the ground. Agriculture in its simplest forms requires but little more intelligence than the pursuits just mentioned, though no employment is capable of higher development. If we look at the savage nations at present occupying nearly half the land surface of the earth, we shall find many examples of the former industrial condition of our race preserved to the present day. Many of them had no knowledge of the use of metals until they obtained it from civilized men who visited them, while their pursuits were and are those of the chase, tending domestic animals, and rudimentary agriculture.—*Prof. Cope, with Modern Scientists.*

ECONOMY IN STEAM POWER.—A Boston correspondent of the *American Artisan* states that he is running a twenty-horse engine constantly with the heat obtained from the exhaust steam of another twenty-horse engine, thereby doubling the amount of power previously produced by the consumption of a pound of coal. The apparatus used consists of a tubular boiler, twenty-six inches in diameter and ten feet long, with sixty 1½-inch iron tubes in it. This boiler is placed in an upright position and filled half full with bisulphide of carbon, and is heated by passing the exhaust steam through the tubes, from top to bottom. The steam is completely condensed in passing through; and the temperature of the water of condensation discharged at the bottom of the boiler does not exceed 120° Fahr. at any time. The latent heat of the steam is absorbed by the bisulphide of carbon, which is converted into vapor very rapidly under a pressure of fifty pounds to the inch. This vapor is used to drive the second engine, which does as much work as the first is doing. The bisulphide vapor after being used is condensed by passing through a coil of iron pipe immersed in water, and is pumped back into the bottom of the boiler as fast as condensed, and used continuously, the waste not exceeding half a gallon per day. Only forty gallons are required to work the engine successfully.

SCIENTIFIC PROGRESS.

Artificial Volcano.

Dr. Fred. V. Hochstetter furnishes an interesting account of a phenomenon occurring during one of the phases of a manufacturing operation, which is, as he claims, a complete duplicate, upon a miniature scale, of a volcanic eruption, and which serves, at the same time, to confirm the modern views concerning the process of an eruption; according to which the lava is not simply in a molten condition, but is reduced to the state of liquidity by the action of superheated water vapor under great pressure.

The phenomenon referred to occurs in the operation of separating the sulphur from the residual products obtained in the manufacture of soda by Leblanc's process. The sulphur obtained from these residues, in order to free it from the gypsum or sulphate of lime mixed with it, is melted in a suitable apparatus, with steam under a pressure of from 2—3 atmospheres. The gypsum remains suspended in the water, and the fused sulphur is from time to time run off into wooden troughs or forms, the temperature of the fluid mass being about 122° C. (251.6° F.). Almost instantly after the pouring, a crust of solid sulphur is formed on the surface of the mass. Dotted over this surface, however, the orifices are left, from which the liquid beneath is forced up. At intervals a jet of sulphur bubbles out, and cooling, forms around the orifice a slight prominence; the repeated eruptions accumulate material about it, until a miniature volcanic cone is formed, with its crater well defined.

The cause of this curious phenomenon is found in the fact that sulphur, in its fused condition in the steam chamber, takes up and retains a certain quantity of water; and this absorbed water, it appears, is given out gradually in the form of steam, as the sulphur solidifies. The slowly liberated steam, accumulating pressure beneath the crust of sulphur, forces, at regular intervals, an outlet at the vents, carrying with it in its passage the molten material to form the solid cone.

SOUNDS FROM THE AURORA.—It has long been an article of popular belief that the aurora is a roarer; that is, that it produces a sound more or less distinct. Scientific men, however, have generally been inclined to regard this auroral noise as a mere illusion. Loomis, in his excellent "Meteorology," says: "There is no satisfactory evidence that the aurora ever emits any audible sound. The sounds which have been ascribed to the aurora must have been due to other causes, such as the motion of the wind, or the cracking of snow and ice in consequence of their low temperature." But in a paper read at a recent meeting of the Academy of Science, of Paris, M. Becquerel expressed the opinion that the aurora really does make a noise, and in support of this view quoted the observations of Paul Rollier, aeronaut, who started from Paris in December last, and descended 14 hours after in Norway on Mount Ide, at an elevation of 4,000 feet; "I saw through a thin fog the moving of the brilliant rays of an aurora borealis, spreading all around its strange light. Soon after an incomprehensible and loud roaring was heard, which, when it ceased completely, was followed by a strong smell of sulphur, almost suffocating."

COPYING PICTURES BY COLLODION.—According to Mr. Kleffel, if a glass plate be coated with collodion in the ordinary manner, and, after the liquid has set, a piece of printed paper be pressed lightly upon the surface by the hand, a very exact reproduction of the letters or figures will be found impressed upon the collodion when the paper is removed, the design remaining perfectly visible after the complete drying of the film. It is suggested that this may be the germ of some important applications in the way of the reproduction of printed matter, without injury to the original.

HYDROCHLORIC ACID AS AN ANTISEPTIC.—A piece of meat, immersed for fifteen minutes in a mixture of one part of the acid to three of water, remained entirely free from putrefactive change after nearly a fortnight, though the action of the acid was not sufficiently powerful to prevent the appearance of a small quantity of mold. The meat was then immersed in a dilute solution of carbonate of soda, and the superficially absorbed acid thus converted into common salt.

THE OPAL UNDER THE MICROSCOPE.—At a late meeting of the Imperial Academy of Sciences in Vienna, Professor von Hochstetter communicated some microscopic investigations on opals, by Dr. H. Behrens, in which the author states that most opals are mixtures of various minerals, including a colorless fundamental mass, containing (microscopically discoverable), hydropic acid, quartz, hydrated and anhydrous oxide of iron, ferrous silicates, metallic sulphurets and carbonates, and organic substances; fire opal, glass-opal, noble-opal, and hyalite are free from admixture, and the first two are structureless. The colors of the noble-opal are interference-colors, caused by lamellæ, which, however, are not tabular crystals. The double refraction discovered by Schultze in hyalite is caused by differences of elasticity such as occur in dextrin, amber, and compressed glass. The author also noticed the spheroidal structure which frequently occurs in opals.

FLOATING OF SOLID IRON ON MOLTEN IRON.—The following explanation of this paradoxical phenomenon is given in the *Scientific American* as a plausible one, to say the least: "According to the dynamical theory of heat, the molecules or particles of heated metals are in a state of great agitation, and the higher the temperature, the intenser the molecular motion. The difference in the specific gravity in melted and solid cast-iron being slight (as 31 to 32 nearly), this constant and fierce movement of the particles of the former prevents a block of the latter from sinking. An analogous action is found in swift running streams or eddies, upon which bodies of considerably greater gravity than water are supported for a long time, and also in the partial suspension of an egg in boiling water."

A NEW GAS.—M. Rouille Paris proposes a new method of gas-making, by which the article can be produced economically and with the simplest apparatus in houses, manufactories, etc. The inventor has given to this new illuminating agent the name of "gas autogene." It is formed of air and steam of essence of Petroleum. The apparatus is described as not only very simple, but as occupying only a very small space. An apparatus for example for the supply of 1,000 burners does not require more than a square yard, and for a less number in proportion. The gas is said to give a much more brilliant light than ordinary gas and to be much cheaper—in fact, that half a cubic yard of "gas autogene" gives as much light as a cubic yard of ordinary gas, and that it costs only three cents per cubic yard.

HEARING IN LARGE CHURCHES.—This is now made as easy as in the smallest, by the success of an experiment lately put in successful practice in Trinity Church, New York. It consists of a paraboloidal reflector of sound, placed at the back of the pulpit, of which the speaker's mouth is the focus. A beam of sound about ten feet in diameter is thus thrown to the most remote point of the church, and by its flow fills the whole body of the building. The structure is quite ornamental, and in harmony with the general architecture of the whole building. All great public buildings, whether for singing or speaking, may have similar arrangements adapted for their use. A person standing at the farthest door in Trinity Church can carry on a conversation with one in the pulpit, in the lowest tones, even in a whisper.

THE SPECTROSCOPE AND THE NEBULAR HYPOTHESIS.—Prof. Kirkwood says that the spectroscopic has demonstrated the present existence of immense nebulous masses such as that from which Laplace supposed the solar system to have been derived. It has shown, moreover, a progressive change in their physical structure, in accordance with the views of the same astronomer. In short, the evidence afforded by spectrum analysis in favor of the nebular hypothesis is cumulative, and of itself sufficient to give this celebrated theory a high degree of probability.

PURIFYING BENZOLE.—According to Professor Hoffman, benzole can be purified more readily than in any other way by first freezing it, and then subjecting it to pressure. For this purpose, it is placed in a tin or brass vessel, in which an iron rod having attached a close fitting piston perforated with numerous small holes is made to play. On forcing this down, the liquid portions are separated and can be drawn off, and on melting the frozen benzole, the hydrocarbon is obtained in a state of purity.

CORRESPONDENCE.

NOTES OF TRAVEL IN SANTA CLARA COUNTY.—CONCLUDED.

[By our Traveling Correspondent.]
Mountain View Station.

This flourishing little village, of about 500 inhabitants, is situated 38 miles south of San Francisco, on the San José R. R., and bids fair to prove a rival of Mountain View proper, which is 1½ miles west. The post office is at the latter, but H. D. Margot, principal merchant at the Station, acts as postmaster there, and receives and distributes all the mail for that place. There is one good hotel, kept by Mr. Geo. Wagstaff, known as the Bay View House. Connected with the same is a fine livery stable, with ample accommodations for hunting and fishing excursions, which are frequent during the season. The manufacture of wagons, carriages, agricultural implements and blacksmithing, is carried on by G. W. Smith, and judging from the rich agricultural region surrounding, seems to be doing an extensive business.

Importer of Fine Stock.

Mr. S. B. Emerson, whose farm is situated 1½ miles southwest of Mountain View, has the same stocked with some of the finest horses, cattle, sheep, etc., in the State. His ranch consists of 900 acres, 700 of which was in grain the past season. Mr. E. as early as 13 years ago imported six thoroughbred Durham cattle; and in September, 1869, imported two bulls, one of which was eight months and the other three years old, and a heifer 15 months old—thoroughbred Holsteins. In my last letter I stated that Mr. S. N. Putnam, near Santa Clara, was the owner of ten thoroughbred Holstein milch cows; but in justice to Mr. Emerson, who is the only importer of that stock, would state that he is possessed of the only full-blood milch cow of that breed, Mr. Putnam's being thoroughbred but crossed with Durham. The oldest bull, which now weighs 2,500 pounds, cost \$2,000; and the other two \$1,500 each. These and their issue are supposed to be the only thoroughbred Holsteins on the Pacific Coast. There are also on this farm 25 half-breed Holsteins, crossed with thoroughbred Durhams, and some very fine thoroughbred horses, and about 40 head of full-blood Cotswold sheep, from the bucks of which he sheared some 14 pounds of wool each—a six months' clip. Mr. E. also has a large ranch on the coast stocked with 400 head of fine cattle. The improvements upon his farm will compare favorably with his fine stock.

Mountain View Proper,

situated 1½ miles west of Mountain View Station, also contains about 500 inhabitants, and is as prosperous as most of the agricultural towns in the State are during the present dry season. The village supports three merchants, two or three blacksmiths, and one hotel, kept by Mr. S. P. Taylor, who is also principal merchant and postmaster. The most of the business in agricultural implements, blacksmithing, etc., is carried on by Daniel Whelan.

Fine Country Residence and Farm.

Three miles from Lawrence Station, and seven miles west of Santa Clara, is situated the ranch of W. S. Hollenbeck, Esq., consisting of 1,000 acres, 20 of which are in orchard and 12 in grapevines. He farms usually from 400 to 600 acres; last year, however, the crop was almost a total failure, nothing but hay being raised owing to the drouth. His residence and out-buildings are as fine and complete as any in the State, and cost not less than \$30,000. The farm is stocked with 20 head of fine horses and the same number of fine cattle, and is supplied with all kinds of agricultural implements necessary to cultivate a farm of its dimensions. Mr. H. also manufactured from his vineyard some 20 barrels of wine the past season.

Mayfield.

This rural village contains about 600 inhabitants, and is situated 3½ miles south of your city, on the San José R. R. Business ordinarily is very lively here, but just at present it is dull, owing to the succession of dry seasons, as is the case in all the agricultural districts of the State. From present prospects and the November rains, we may look for a prosperous sea-

son next year. The principal hotel at this place, the Chandler House, is kept by J. L. Chandler, giving first-rate accommodations. The principal merchants in the place are J. A. Hamilton and A. G. Rich, the latter dealing in dry goods, boots, groceries, hardware, agricultural implements, etc., and is doing a first-class trade. Surrounding the village are some of the finest farms in the county; that of J. S. Wallis, one mile east, containing 250 acres, is one of the most noticeable. Twenty acres are in orchard, and eight acres, in front of the improvements, are laid out as a park, and fitted up in a superb manner. All varieties of trees are raised that will grow in this climate.

Norway Oats.

Mr. W. H. Schuyler, at Menlo Park, sowed some of this grain on the 22d of February, 1871, and cut it on the 22d of July. From 91 pounds sown, 6,200 pounds were reaped, and the straw was 7½ feet high.

L. P. M'C.

NOTES OF TRAVEL IN ALAMEDA CO.

By our Traveling Correspondent.

Alameda county, adjoining Santa Clara county on the north, forms the eastern shore of the Bay of San Francisco, for about 36 miles, and extends on the west to the summit of Mount Diablo range about 35 miles. It contains about 800 square miles, or 512,000 acres nearly equally divided between mountains, valleys, and plains. Nearly 140,000 acres are under cultivation. About 20,000 acres on the margin of the bay are overflowed lands. Among the most important of the valleys are Livermore, Sunol, Castro, Amador, Moraga. The plains include the nearly level land along the shore of the bay from Harrisburg to San Pablo, and has an average width of about five miles. This county contains several grist mills, capable of making 1,500 barrels of flour daily; it has no timber fit for lumber. Its chief resources are fruit, grain, dairy products, salt, and beet-sugar. The towns are Oakland, Brooklyn, Alameda, San Leandro (the county seat,) San Lorenzo, Hayward, Mt. Eden, Alvarado, Centerville, Vallejo Mills, Mission San José, Niles station, Harrisburg, and Dougherty's station. The soil of the county generally produces abundantly.

Mission San Jose.

This is one of the original 16 missions that were established by the fathers some three quarters of a century ago. With some additions and repairs the old adobe building occupied by them at the foundation of the mission is still standing. About two miles distant are the Alameda Warm Springs, the waters of which are medicinal, containing sulphur, lime, magnesia, and iron in various proportions. Mission peak, to the east, makes a fine back ground to the view, and attains a height of 2,275 feet, from the top of which a fine view of San Francisco Bay and the cities on its edge is obtained. The hotel arrangements and the attentions the guests receive are highly spoken of by visitors, who are numerous during the summer. The two principal hotels are the Washington, C. O. Babb, proprietor, and the International, Joseph Colombet, proprietor. The principal manufacturers of agricultural implements are J. Aylward and N. Bergmann, who also do a general blacksmithing business. The latter, owns the patent right of the gang plow "American Chief," and is manufacturing them extensively. I learn from the farmers in the vicinity that they give general satisfaction.

Extensive Vineyard.

One of the largest vineyards in the county, is that of Mr. J. C. Palmer, three-fourths of a mile south of Mission San José, comprising 100 acres; the farm embraces in all, however, 1,000 acres. All but the vineyard is used for grazing purposes. There are 125,000 vines already set out, some of which are 15 years old; 2,500 new vines are set out every year. Principal varieties raised are the Zinfandel, Muscat of Alexandria, and Muscat of Fontanbleau. This gentleman made last year 30,000 gallons of wine, and has on hand at present 45,000 gallons, one-half of which is three years old. It is stored in white oak casks, one of which contains 2,500 gallons, two 2,000, and one 1,000, and the balance is stored in 600 gallon casks. Eight men find regular employment, and the wine cellar is the finest I have seen anywhere in the country, costing probably \$10,000. He contemplates enlarging and improving it still more.

Successful Fruit Grower.

The Rev. W. W. Brier has been more

successful, as a fruit grower, than any in this section, and is looked up to as an authority in points connected with fruit growing. He has 61 acres of land about 1½ miles north of Centerville, 35 of which are in orchard; apples, peaches, pears, cherries, etc., are raised; but apples more abundantly than anything else. He marketed this season about 3,000 boxes of them, and also 1,000 boxes of peaches. The soft-shell almond, known as the Languedoc, is grown here and this gentleman was the first who matured it in this country, so it is now sometimes called, out of compliment to him, the "Brier Languedoc."

Vallejo Mills,

situated near Niles' Station on the W. P. R. R., is the point at which the railroad starts to cross the Contra Costa range. It is a small place with but few inhabitants; but large enough to have a hotel, the Nile's House, J. A. Virgil, proprietor, and a fine country store owned by Wm. Snyder.

L. P. M'C.

[To be continued.]

Notes on Half-Moon Bay.—No. 5.

EDS. PRESS:—Our crops, this season, far exceed those of any previous years. No one has a poor crop, and all are above the average. I believe the oat crop will average 90 bushels per acre, throughout. A number of fields of barley, in potatoes last year, overrun 100 bushels. We can get along with very little rain here, and last spring was so favorable that still less rain would have given us a good crop.

The crops throughout the State generally, this year, show what a wonderful effect the atmosphere has upon grain. In many localities, where the rainfall seemed absolutely too light to make a crop, short of a miracle, the favorable condition of the atmosphere, just at the crisis, filled the grain beyond all expectation, and agreeably surprised many when they came to sack their crop.

Norway Oat Culture.

According to promise I herewith send you the result of Norway oat culture on this coast. I also give the yield per acre of the common oat upon the same farms—a sack being 100 pounds.

J. P. Ames, Spanishtown—valley land—sowed on four acres 350 pounds; yield, 155 sacks; says one acre was destroyed by stock. Ground, a four-acre lot used as a night pasture or corral for five years, and considered the richest piece of land on the farm. Will sow all Norway next year. Average of common oats, 25 sacks.

T. F. Potter, Tunitas—valley land—sowed 64 pounds on three-fourths of an acre; yield, 38 sacks. Ground has been in onions for several years. Will sow his 38 sacks next year. Common oats, 23 sacks per acre.

S. W. Preble, San Gregorio—hill land, south exposure—sowed 68 pounds on one acre; yield, 40 sacks, ground in potatoes last year, being new land. Will sow all his seed next year. Common oats, 31 sacks per acre.

J. H. Osgood, Pomponia—hill land, south exposure—sowed 50 pounds on one acre; yield, 25 sacks. Ground in oats last year. Will sow his 25 sacks next year. Common oats, 27 sacks per acre.

C. Landenslager, San Gregorio—valley land—sowed 210 pounds on three acres; yield, 71 sacks, ground in oats last year. Will sow no more. Common oats, 25 sacks.

G. W. T. Carter, San Gregorio—hill land, east exposure—sowed 70 pounds on 1¼ acres; yield, 22 sacks, ground in oats last year. Will sow no more. Common oats, 33 sacks per acre.

Alex Gorden, San Gregorio—hill land—sowed 300 pounds on six acres; yield, 320 sacks. Ground in potatoes several years. Will sow again. Common oats 32 sacks per acre.

Kinner Bros., San Gregorio—valley land—some 24 pounds on one-half an acre; yield 22 sacks. Ground, new, rich land. Will sow all his seed. Yield of common oats, 26 sacks.

John Wilber, Pillarcitas—hill land, north exposure—sowed 225 pounds seed on eight acres; yield, 181 sacks. Ground in beans the year previous. Yield of common oats unknown. Will sow again.

The yield of Norway given is the total yield from the seed sown; the common oats per acre. The soils were all black, sandy loam. It will be observed that care has been taken to have the Norway sown on land not in grain the year previous, and the best land on the farm. It will also be observed that in the three instances where sown on land in grain the year previous, the yield has fallen short of the common oats—in one case being nearly

half. Where sown on land under the system of rotation, the yield has been heavy, and consequently the experimenters are well satisfied and will sow accordingly. I myself believe that were they always sown on such land the yield would be heavy, but do not believe they are as profitable as the common oat sown on stubble. They are a more costly crop to handle. The straw is coarse and heavy; stands in the field, green, long after the common oats are cut. Takes about as long to cure to make them fit to stack as cornstalks, to which they bear great similarity. The question is whether they will stand up on such as potato land better than common oats. Owing to the dry season all grain stood up well this year; but the worst piece of fallen grain I saw was the Norways of Kinner Bros., which fell so flat that the reaper had to be let down to the ground and cut one way to get them.

G. W. T. C.

San Gregorio, Dec. 2, 1871.

Cotton-growing in California.

EDITORS PRESS:—We notice that southern papers pronounce cotton-growing in California no longer an experiment, but an eminent success. That they have rendered a righteous judgment, there can be no doubt. Reports in the PACIFIC RURAL PRESS and other journals, show that some parties have produced an extraordinary amount of cotton per acre, in this State, the last year. The southern counties of our State have done well, and will improve by continued effort and experience. But some portions of San Joaquin and Sacramento valleys are destined to become far better cotton-growing regions than many of the most favored localities of the Gulf States.

I lately called on Mr. W. J. Campbell, of Cache Creek, Yolo county, who showed us a small patch of Sea Island cotton which he planted for experiment, near the creek, on bottom land, where there had been little or no rain for two seasons. The seed was sown the first of May—about two months too late—and will continue to grow in all cases till frost kills it. The stalks average four feet high. Mr. C. cut and weighed one stalk. It was over four feet in height, contained 200 branches and 200 well matured bolls, and other coming on. I estimated the amount of cotton and seed to be 10 pounds each. (I send you a sample boll.) He says these stalks are much larger than any he had seen in Alabama, yielding a greater weight of cotton seed.

Every careful observer of commercial vacillation knows that it was the absence of wool in market, during the years of the late civil war, that raised the price of that article; but the time is at hand, when the abundance of cotton in market will again reduce the price of wool to its minimum price before the war. Cotton makes better beds, better mattresses, or stuffing of any kind, than wool, and infinitely more desirable summer clothing.

More money can be made by raising cotton in California than from raising wool, wheat or corn, per acre. The seed of a cotton boll is equal in weight to the cotton, and fair experiments show that it is equally as good as corn to fatten hogs on, and for some other useful purposes.

I must not omit the fact, that Mr. C. F. Reed, near Knight's Ferry, President of the California State Agricultural Society, has already sown and brought to some perfection several acres of upland cotton, on reclaimed marsh land.

From the above experiments in the upper counties, who can doubt that cotton can be successfully grown in California? It is evident that the Sea Island cotton is best adapted to the climate of low lands. It will stand drouth in moist lands, and is not easily bitten by frost. The luxuriant growth now to be seen on Mr. Campbell's ranch was planted the first of May last, and grew on without any cultivation or a drop of water till the late rains.

There are those who say that cotton cannot be grown here, on account of late frost. Of course this would rule true in some localities, but in others it is tested by fair experiment that it will not rule. There is no more liability to injury from late frost in some localities of California, than in the "Cotton States." It should be sown the first of March, or soon after the probability of late frosts.

"Cotton will not grow anywhere!" It must be planted on rich, highly cultivated bottom land. If cotton will grow here on a small scale, why not on a larger? There are thousands of acres on Cache Creek, and many other creeks in California, that will produce a heavy crop of cotton, when neither vegetables or grain can be grown, for want of water.

M. B. S.

HORTICULTURAL.

Some Tropical Fruits now being, or Likely to be, Cultivated in California.

[Written for the Press, by E. J. HOOPER.]

South American Fruits.

Among the good edible fruits of Brazil, Peru, etc., in South America, are the Grenadillas (*passiflora*), called *Parchas* by the Spaniards. These are very commonly eaten, especially in Brazil, and are highly esteemed for their pleasant cooling qualities. Some of the species have been introduced into the Eastern States, chiefly, though, on account of the beauty of their flowers. With the cultivators few of the species have borne fruit. But it would probably be quite different in some of the Southern States or in California, in warm and favorable locations.

The grenadillas with which we are best acquainted, are those of the West India Islands, the chief of which are the purple fruited (*passiflora edulis*), the *passiflora quadrangularis*, and the watermelon (*passiflora laurifolia*). The fruit, when unripe, is green; but as it ripens, changes to a dark purple, and much resembles the fruit of the purple egg plant. The pulp is orange colored, and the seeds numerous; the taste acid, and the flavor somewhat like that of an orange. The plant grows with wonderful rapidity.

The flesh-colored grenadilla (*p. incarnata*) has a perennial root. The fruit is about the size of an apple, orange colored.

The *passiflora quadrangularis* is, probably, the most valuable for cultivation as it has borne fruit in the gardens of the London Horticultural Society. These grenadillas generally, have a pleasant, sweetish acid, with a fragrance something between that of a melon and a strawberry. The famous English botanist and practical horticulturist, Philip Miller, of the Chelsea Gardens, near London, gives in his great dictionary, published just 100 years ago, as many as 17 varieties of the *passiflora* or passion flower.

Passiflora laurifolia is commonly called Water Lemon in the West Indies. Some of the sorts may be propagated by cuttings and layers as well as by seeds. The *passiflora incarnata* grows naturally in Virginia and other parts of North America. Of course the fruit of this is of no value except for ornament in its flowering, with that of the other kinds. Some of them are perennial, and others annual.

It is stated that nothing struck the companions of Columbus with more surprise than the singularly beautiful passion-flower, as they named the plant when they first saw it in the South American woods, climbing from tree to tree in all the splendor of its cruciform character. Their religious sentiments concerning the cross, as a remembrance, need not be described.

Another fruit of Peru, which is in much esteem among the nations is the achocoo (*Leonia glycycurpa*). The fruit is the size of a peach, rough, yellow, and filled with sweet, soft pulp of the same color. The tree is large, bearing yellow flowers, growing in loose panicles.

Quele, or Kuele (*Gomortega nitida*), is a large evergreen tree, and is not uncommon in the woods of Chili. The fruit is the size of a small peach, and like it consists of a fleshy substance enveloping a stone. The eatable part is yellow, not very juicy, but of a most excellent and grateful taste.

East India Fruits.

One of the fruits of the East Indian Archipelago is the Jambu. That most esteemed for the table, and the largest, is the Jambu Merah or Kling, (*Eugenia malaccensis*). This resembles in shape a pear; the outer skin, which is very fine, is tinged with a deep and beautiful red, the inside being perfectly white. Nearly the whole substance is edible, and when properly ripened is delicious. In smell and even in taste it partakes much of the flavor of the rose, on which account it is frequently called *Rose Apple*. Rhind in his "History of the Vegetable Kingdom" calls this fruit the Malay Apple, which, though inferior to the Durion (*durio zibethinus*), is a very valuable and delicious fruit, and attractive by its fragrance, its smell being that of a rose. The true Rose apple, or *Jambosale* (*Eugenia jambos*), is a branching tree, from 20 to 30 feet high, with long, narrow leaves, resembling those of

the peach. The flowers come out in terminal bunches in July, are of a greenish-yellow color, and are succeeded by fruit about the size of a hen's egg; white, red, or rose-scented, with the flavor of a ripe apricot. It is a native of the East Indies, and was cultivated in England by Miller, the eminent horticulturist above mentioned, as early as 1768.

The Akee (*blighia sapida*), is a native of Guinea from whence it was carried by Capt. Bligh, in 1793. It has grown well in the West Indies, and is there much esteemed as a fruit. It was introduced into England in 1794. The leaves of the Akee are something similar to those of an ash; the flowers are small and white, and are produced in branched spikes. The fruit is oblong, ribbed and compressed in the middle, of a dull orange color, and contains several large seeds, to the end of which is attached a rich and slightly acid arillus (the out-coat of a seed lightly attached to it), which is the part eaten.

All the fruits of the tropical or semi-tropical kind introduced into England have, of course, to be cultivated by stove heat in hot-houses, but we have such warm and mild climates (in speaking of climates we may use the plural), on our Pacific slope, that many of them, no doubt, perseveringly cultivated, would do well here either for their ornamental, or fruit characters. We should at any rate, make a beginning in this matter, in process of time, to be most probably, well rewarded for our pains.

Swamp and Overflowed Lands.

Important Decision by the Secretary of the Interior.

Our Washington correspondent under date of December 9th sends the following:

The Secretary of the interior in reply to certain questions propounded by the Commissioner of the General Land Office, in his letter of the 16th of August last, in the matter of the construction of the Act of Congress, of July 23d, 1866, "to quiet land titles in California," so far as the same relates to swamp lands, has, after careful review, rendered a decision in substance as follows:

1st. That the first three sections of the Act relate to lands which have been disposed of by the State to purchasers in good faith under her laws, and confirm to the State all such selections, except in the cases named in the proviso to the first section.

2d. That the fourth section secures to the State, as swamp and overflowed, all lands that are represented as swamp on the approved plats of U. S. Surveys that had been made prior to July 23d, 1866, or that should thereafter be made, and required all such lands to be certified over to the State in all cases where no adverse claim existed.

The U. S. Surveyor-General shall examine the State Segregation maps, in townships which had been surveyed by the U. S., prior to the date of the Act, to conform to the U. S. rectangular system, he shall construct and approve township plats accordingly.

That in all townships where the State surveys do not conform to the rectangular system, and in all townships which had not been surveyed by the U. S., prior to July 23d, 1866, the Surveyor-General is required to make segregation surveys of swamp lands, upon application, made to him by the Governor of that State and within one year from such application, and to report the same to the General Land Office; that in making these surveys he is to be governed by the best evidence he can obtain, and the State, if not satisfied with them, has the right to introduce testimony before the Surveyor-General and to appeal from his decision to the Commissioner of the General Land Office.

That the Surveyor-General, in the examination of segregation maps conforming to the rectangular system in townships which had been surveyed by the U. S., prior to July 23d, 1866, and to which there was no adverse claim, should not under the law take into consideration the quality of the land embraced in such segregation surveys, but should treat them as swamp, whether they were so in fact or not.

UNDERGROUND IRRIGATION.

In addition to the advantages of underground over surface irrigation, referred to in our issue two weeks since, we would enumerate the following:

1. The same tubes used to conduct the water under the ground may be used to convey any kind of manure to the same locality in a liquid state. To accomplish this you have only to make the reservoirs at the head of the piece of land to be irrigated and manured, of sufficient capacity and fill it with manure—the water passing through this manure will extract from it its fertilizing properties and conduct them, in a liquid state, to the roots of the trees and plants. Thus all the strength and value of the manure will be saved and applied in the best form at the point where most good will result. None will be wasted by evaporation, and all danger of the introduction of weed seed into the soil will thus be avoided. Any variety of manure desired to be used, from the coarsest stable manure to the finest commercial varieties may thus be utilized to the best advantage.

2. Another advantage of this mode of irrigation is, that while introducing the water you also introduce the air under the ground, thus enlivening the soil, and at the same time extracting from that air its very important and valuable fertilizing qualities and applying them directly to the roots of the growing vegetation.

Again; in the spring or early summer the air is much warmer than the soil, and the warm air thus penetrating the soil and working around the roots acts to a certain extent like a hot bed, and brings forward the early vegetable as no surface irrigation will.

3. The same sort of tubing or pipes used for irrigating the land in times of drouth, will answer the purpose of an underground drainage system in a very wet season.

To accomplish the latter object you have but to open a ditch at the opposite end of your garden, from that into which you introduce the water in the pipes, so that the surplus water in the soil will run off. It will then work into the pipes at the openings and run through them into this drainage ditch, and thus your garden will be relieved of too great a supply of water through the same system that irrigates it. For garden purposes this drainage operation is almost as important as the irrigation, and considering that both operations can be accomplished at the same expense and by the same system, we think it worth while that all our farmers throughout the grain districts should give it a trial. A small piece of ground, thus prepared and cultivated, as a kitchen garden and fruit orchard will be worth more to the average grain farmer, taking one season with another, than ten times the same amount cultivated in the ordinary way and devoted to the ordinary crops. We would urge this consideration, at this time, for the reason that this is the season of the year when farmers should be at work at their gardens, whether they introduce this system of irrigation and drainage or not.

4. This underground irrigation will, in our opinion, prove one of the most effective and economical means of reclaiming alkali soil or of freeing the soil of a superabundance of this offensive property or ingredient. Water, passing over soil, dissolves the alkali that is on the surface and carries the solution away with it. This is evident from the fact that in all alkali districts, the low places, where the water accumulates and remains until carried away by evaporation, are strongly impregnated with this material.

Taking all things into consideration, the underground irrigation for all small plots of land, such as gardens and small orchards is the cheapest, as well as the best.

Pipe, two-inch bore, can be had at five cents the running foot, and one and one-fourth inch bore, at three cents the running foot. Water will readily soak eight feet each way from the pipe, so that a line of pipe once in sixteen feet through a garden will be a plenty. The cost of thus putting it down is but a trifle compared to the advantages we have shown will accrue. The pipe can be obtained of N. Clark & Co., of Sacramento or can be made by any

other similar manufacturing establishment.

Those who would have good gardens on dry land will do well to try the underground irrigation.

This system of irrigation and drainage will act to free the ground of the alkali, in both capacities—that is, when used for irrigation, as well as for drainage. In the dry season, the water being introduced below the surface, percolates upward, bringing the alkali in solution to the surface, and the action of the sun and air upon it neutralizes it—or evaporation carries much of it off in the air. In the wet season the water draining from the soil and running away through the pipes carries the alkali with it. Thus with this system of pipes, we are at all seasons improving our land and benefitting ourselves.

Photographic Ghosts.

In last week's issue in an article in regard to photographic pictures, observed upon panes of window glass in houses in this city, which occasioned considerable excitement, we gave some facts in relation to the effect of certain gases and exhalations upon glass. Air and light are known to have a marked effect upon glass. Bluish or greenish glasses become by exposure colorless, and other glasses often become purple red from the oxidation of the manganese contained in them. Glass which contains lead suffers another kind of change in the air if sulphuretted hydrogen be present; and the surface of the glass becomes iridescent, exhibiting various colors and often fanciful images.

Spiritual Photographs.

In this connection we may call attention to the different ways in which secondary images, or as they are sometimes called, "spiritual photographs" are made to appear. We copy from the London *Photographic Journal*:—Photographers are acquainted with three or four different ways in which secondary images may appear in photographs. In the first place, when a sensitive glass plate has served its turn as a negative—as many paper positives as may be needed having been taken from it—the film of collodion or other prepared surface is removed from it, and it may then be used for a wholly new photograph. But it is found that unless great care be used, some faint traces of the former picture still remain, and these may appear as a sort of ghostly attendant upon the figure forming the second picture. One photographer, in endeavoring to utilize an old plate which had fulfilled its duty as a negative, could not wholly erase the image, wash or rub as he might; there was always a faint ghost of the person accompanying any subsequent photograph taken on the same plate. Dr. Phipson relates that a friend of his received at Brussels a box of glass plates, quite new and highly polished, each wrapped in a piece of newspaper; a lady sat for her photograph, taken on one of these plates, and both the photographer and the lady were astonished to see that her likeness was covered with printed characters, easily to be read,—the ghost of a political article in fact. In this case actinic rays had done their work before the glass was exposed to the camera.

By another mode of manipulation, a photographer may produce a ghost-like effect at pleasure; a sitter is allowed to remain in the focus of the camera only half the time necessary to produce a complete photograph; he slips quickly aside, and the furniture immediately behind him is then exposed to the action of the light; as a consequence, a faint or imperfectly developed photograph of the man appears, transparent or translucent, for the furniture is visible apparently through his body or head. With a little tact, a really surprising effect may be produced in this way. As a third variety, one negative may be placed in contact with another, and a particular kind of light allowed to pass through it for a time; there results a double picture on the lower negative.

CALIFORNIA TIMOTHY.—We have in our office a bunch of Timothy or Herds grass, which was presented by Mr. Wm. Ede, of this city. The grass is a very fine specimen of its kind, and was grown on the bottom lands of Mr. Ede's ranch in Sierra valley, showing conclusively that where there is sufficient moisture the best eastern grasses will flourish in California as well as in their native soil. The yield was about 2½ tons to the acre. Some of the heads are eight inches in length.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA COUNTY—From the *Ecinal*: **MARSH LANDS**.—The sum realized from the sale of marsh and tide lands along the Alameda shore foots up \$40,086.91.

SETTLERS' MEETING.—The pre-emption settlers on the Los Pocitas rancho held a meeting at Livermore for the purpose of organizing to resist the listing of lands to the State, upon which settlers are living. A protest was adopted, to be sent to Commissioner Drummond, narrating the grievances of the settlers and asking relief.

EL DORADO—*Placerville Democrat*, Dec. 16th: **PLOWING**.—In White Oak and Salmon Falls Townships the farmers are busily putting in their crops, the ground being in splendid condition for plowing. There will be a greater number of acres sown this year than any previous year.

GILMORE has stocked his ranch with 300 head of graded Angora goats.

INYO—*Independent*, Dec. 9th: **LOSS OF CATTLE**.—The early and very unexpected deep snow in the mountains causes a well-founded alarm for the safety of hundreds of cattle which have been allowed to remain too long upon their summer ranges. A report from Bishop creek brings us word that the snow is six feet deep in Long Valley, while there are about 2,000 head of cattle remaining there. A road was being cut to them, but there recovery is a matter of serious doubt. It is also said that several men who are known to be with them are unheard of.

HAY.—This commodity has lately advanced to a price almost unprecedented in this county—\$50 per ton, at and below Lone Pine, with strong probabilities of soon reaching \$60.

LOS ANGELES—*Star*, Dec. 7th: **PERMISSIONS**.—The first of this species of wild fruit was shown us yesterday. The tree was imported from the East by Mr. Rubottom of Spadra. Mr. Rubottom has imported twenty different varieties of fruit and forest trees, among which are the white walnut, black walnut, red elm, red and black haw, hazel nut, and the genuine old fashioned chestnut. The chestnut trees are growing rapidly, and will soon be bearing.

SILK CULTURE.—Mr. Romolo Bonhomme, a gentleman of extensive experience in the culture of silk, has arrived in this city from Europe for the purpose of experimenting in the raising of the silkworm. In order to advance as far as possible this branch of industry, he will visit the white mulberry tree groves in this vicinity for the purpose of ascertaining all the facts that can be gleaned, as to their quality and quantity. If the country proves as good as he anticipates for the propagation of the silkworm, it will not be long before Los Angeles will have a silk manufacturing establishment added to its business.

The shipment of oranges and lemons of this year's crop, has fairly commenced: 200 boxes were delivered one day last week for San Francisco.

There are 40,000 orange trees in Los Angeles county, which produce an average of 1,000 oranges per tree. The promise of a large crop this year is excellent.

MARIN—*San Rafael Journal*: **CATTLE DYING**.—We are informed by parties lately in from the country, that the cattle have suffered much from the cold weather and the destruction of the old pastures by the rains. Many have died in consequence.

MONTEREY—*Democrat*: **MORTALITY AMONG SHEEP**.—We observed the other day a wagon loaded with sheep skins passing towards the wharf and on inquiry were told that they came from one of Trisconi's ranges, the Arroy Seco Rancho. They were significant of scant pastures or overstocking and were anything but a cheerful sign. The driver of the wagon said that was not the only load, he had many more skins to bring and that the sheep were dying rapidly.

NAPA—*Reporter*, Dec. 9th: **FARMING**.—The farmers in this valley are proving their thrift by the energetic way in which they are going to work putting in crops. Many farms were sown before the late rains, and the grain on them is up and is growing finely. The soil is generally in an admirable condition, and large farms have been plowed and sowed.

NEVADA—*G. V. Republican*, Dec. 13: **NORWAY OATS**.—C. L. Dimon, of the Silken Grove Ranch, has ordered a quantity of Norway oats from San Francisco. He intends to sow them on his ranch, and see if they are adapted to the foothill region.

ANGORA GOATS.—*G. V. Union*: A company is about being formed in this town, which will have for its object the importation of full-blooded Angora goats, and the breeding and rearing of graded goats. The business has been successfully carried on in other portions of the foothills of California, and the industry seems to promise a more immediate return for capital invested than any other project which has been started in the way of raising textile crops. The Angora goat will find his food already grown in the mountains, and will not have to wait for it, as the silkworm does.

PLACER—*Auburn Herald*, Dec. 9: **FINE FRUIT**.—Mr. Anton Armbruster, of Nealsburg, has presented us a box of the finest apples we have seen this season. These apples were raised at an elevation of 1,800 feet above tide water, in these foothills, and they are proof of the superiority of this climate and soil for the cultivation of these varieties of fruit. The box contained a variety known as the German apple, a beautiful, round, smooth, red apple that will keep good until June, and is choice for eating and cooking. Also, the Spitzenburg, Bellflower, Rhode Island Greening and other choice varieties. Mr. Armbruster has from 300 to 400 young, bearing trees, and has gathered from them this season some 28,000 pounds of the choicest apples to be found in any market.

PLUMAS—*National*, Dec. 9: **FINE PEACHES**.—We are indebted to Mr. Joseph Hallsted for a large can of splendid peaches, put up by him from his orchard near 12-Mile Bar, on the East Branch. No better fruit grows in the State than can be found on the East Branch.

SACRAMENTO—*Union*, Dec. 6: **TREE CULTURE**.—Yesterday, we witnessed an example of the results of culture in rearing trees. Around the block reserved by Mr. Horton for his residence, in the rear of the hotel, are planted forty Eucalyptus, or Australian gum trees; all of them were planted at the same time, and all are thrifty and have made rapid growth, but three of them, in front of the stable, attracted special attention. One of these trees, 17 feet in height, has grown 11 feet 2 inches, since the 15th day of July last; the others show a growth almost as remarkable. A pepper tree near the same spot, has grown from the ground to the height of 6 feet 6 inches, since September 1st—three months. These trees near the stable have been carefully attended to by Mr. Allen; he dug a trench down to the roots, and filled it up with manure, filling earth on top, and has given each two or three buckets of water about once a week.

SANTA BARBARA—*Ventura Signal*, Dec. 9: **COTTON**.—The Messrs. Ramsauer have placed in our hands some samples of cotton grown on their farm on the Colonia. It is from Arkansas seed, "upland" variety, and was not planted until the 5th of June. The staple is short, but as fine as silk floss, and as white as Alpine snow.

NEW ENTERPRISE.—The *Press* refers in terms of congratulation to the fact that a colony of 100 persons is now rapidly forming to purchase and divide up one of the largest ranches in Santa Barbara County. Dr. Shaw is the first to divide up his large tract of land in order to induce the opening of farms by offering them to actual occupants at reasonable prices.

SANTA CLARA—*FINE DAIRY*.—Samuel Cole leases of H. Miller 500 acres, situated 4½ miles a little east and south of Gilroy, and has the same stocked with 150 head of good milk cows that average 300 pounds of cheese to the cow annually, besides raising the calves to maturity. One cheese at the dairy weighs 320 pounds. It was the same that took the first premium at the last State Fair.

SANTA CRUZ—*Sentinel*, Dec. 16th: **WINES**.—The wine produced from the vintage in this county this year, will exceed 25,000 gallons; the Jarvis brothers are the heaviest producers. The Lay brothers and Fitch brothers have several thousand gallons in pipes from this year's vintage. Mr. Gharkey has also made several hundred gallons.

LOMPOC RANCH.—An association is being formed to buy this ranch, containing 45,000 acres, for \$300,000, and divide it up into farms.

SAN DIEGO—*Union*, Dec. 9th: **ALFALFA**.—The alfalfa grass is beginning to make its appearance on our hills, and in the neighborhood of town. In a short time it will cause everybody to completely forget that our hills were ever barren.

A firm of butchers are about trying the experiment of shipping beef by steamer to San Francisco. Three beeves have been fattened to the weight of about 1,000 lbs.

each, net, which will be slaughtered, the meat packed, and forwarded. The *Union* thinks the business of beef shipping can be prosecuted successfully in the winter season.

SAN MATEO—*Gazette*, Dec. 9th: **GOPHERS**.—John McEvoy, an extensive farmer and large landholder in the neighborhood of this place, informs us that now, while feed is scarce, is the proper time to poison gophers. In a few hours last week he killed one hundred and seventy on his premises.

SONOMA—*Santa Rosa Democrat*, Dec. 9th: **IMPORTED BERKSHIRES**.—Winfield Wright, of Santa Rosa to township, received by overland railroad, on the 27th of November, a Berkshire boar and sow, from Boone county, Missouri. These two pigs are, one four and the other five months old, and weigh respectively 150, 175 pounds. The freight on these pigs through from Missonri to Santa Rosa was \$170.50.

A NEW GRAPE.—We sampled a few days ago a bottle of wine from the cellar of Wm. Hill, of Sonoma, made from the Zinfandel grape, a new variety that is growing rapidly in favor with the wine-makers of this county. This wine was of the vintage of 1867, 4 years old, and was pronounced by the several gentlemen who tasted it, to be superior to any they had seen in the State. Mr. Hill has but a small quantity of this vintage on hand, which he keeps for private use; but we learn that several of the wine-makers of the valley are entering largely into the cultivation of the Zinfandel grape. Among others, Col. G. W. Whitman has an extensive vineyard, and makes about 2,000 gallons of wine from it this year.

A WOOLEN mill enterprise is projected at Santa Rosa.

TULARE—*Times*: **HEAVY LAND SALE**.—We note a very important move in land matters. A company of San Francisco capitalists have purchased in a body, 40,000 acres of swamp and overflowed lands, lying at the northwest end of Tulare Lake, at \$2.50 per acre. The same parties are negotiating for an adjoining tract of 25,000 acres, when they will immediately inaugurate active measures for the reclamation of this great body of valuable land.

VINEYARDS.—Mr. Y. B. Stokes has the largest vineyard in the county—20 acres in cultivation—and many thousand gallons of wine may be found in his cellar. Mr. Steinman also has an extensive vineyard, and a number of lesser vineyards are successfully cultivated, yielding in the aggregate perhaps 25,000 or 30,000 gallons of wine and brandy.

OREGON.

Oregonian: **SETTLERS**.—There are quite a number of new comers who are looking for farms.

For a number of days the real estate agents in this city have been kept quite busy in "showing around" the new comers and arranging for transfers of real estate.

Wheat is only worth 65 cents per bushel at Walla Walla, in consequence of the want of means of transporting it to market.

A Hillsboro Cor. writes: "Real estate is steadily advancing with a brisk demand. Several farms have changed hands within the last 3 or 4 days. Wheat and oats are coming in rapidly for shipment as soon as the cars arrive. Everybody and the 'rest of mankind' seem to be at work plowing and sowing fall wheat; and some are plowing in oats as an experiment.

The Redrock *Democrat* is crowing over a couple of potatoes weighing respectively 3½ and 4½ pounds, raised in Baker county.

COR. WILLAMETTE FARMER—**SHEEP-KILLING DOGS**.—In Western Oregon, wool-growing is generally carried on as a part of mixed husbandry. The question whether a farmer shall keep sheep or any other grazing stock, is often decided by the fact whether the district in which he lives is infested with coyotes or sheep-killing dogs, or not—and there are many farmers who would be glad to extend their wool growing in connection with the cultivation of wheat, were it not for the number of sheep-killing dogs.

COLORADO.

Greely Tribune, Dec. 6th: **STOCK FARMER**.—Captain Maynard's stock ranch is 25 miles south of Cheyenne. He has some choice Durham bulls and cows, besides a heard of 150 half-blood Cherokee cows, and a flock of 1,500 grade Merino sheep; these he is crossing up with imported Spanish Merino bucks. Same paper says: Messrs. McClennan and Putnam have about 800 sheep 4 miles from town which are doing well on the range, and without hay or grain. Good shelter is provided which they seek in cold and stormy weather.

IDAHO.

THE WEATHER.—*Lewiston Journal*, Nov.

30th: For the last two weeks we have had warm, gentle, steady rains, which have extended to Pierce City. We may look for a more favorable water season than for the three past.

The grass has started finely on the grounds turned to the sun, about and near the Elpawai district.

The *Idaho Statesman* says at Mr. Morse's gardens are several beds of beautiful flowers in full bloom. He thinks it more than probable that a bouquet can be plucked there to decorate some Christmas tree. The rigors of Idaho climate are not so severe after all.

MONTANA.

AGRICULTURAL MACHINES.—*Missoula Pioneer*: Mr. H. M. Stone, of Springfield, Ohio, called and informed us that he shipped to Montana last season 77 reapers and mowers, and 65 sulkey-rakes, all of which were disposed of except two reapers which were received after the harvesting season had closed. With this exhibit in the sale of farming implements, who dare have the hardihood to assert that Montana, as an agricultural region, is a failure.

Large herds of cattle are being driven from Texas to Montana. A drove of 1,200 passed through a town in Colorado a few days ago.

UTAH.

LAND SURVEY.—*Deseret News*: A late survey of the Public Lands has been made in Round Valley, which embraces 11 fractional townships containing an area of 110,547.26 acres, which we are informed will be ready for homestead and pre-emption entries sometime during the month of January, 1872.

The lands in these townships are for the most part first and second rate. They are well watered by the Sevier River, which runs through the greater part of this survey and further south by a beautiful little lake of fresh water, thereby affording superior facilities for irrigation. Fine tracks of good grazing land are also found, while in many parts the soil is well adapted to agricultural pursuits.

INTELLIGENCE from the lower valley is to the effect that it has been cold and stormy for a week, with scarcely any snow in the valley, but plenty in the mountains. In consequence of the lost crops by grasshoppers many of the people have gone to other valleys to labor for the winter. Those here are comfortably fixed for the winter. Beef in the valley is fatter than ever before known. Large herds of Texas cattle continue passing north and west, as they have done all summer. Many of them are in excellent condition. Over 4,000 head have passed through already.

WASHINGTON.

Olympia Transcript: **LARGE POTATOES**.—We have been shown some very large potatoes, grown by A. S. Yantis, Esq., of Skookum Chuck. One of them measured 13 inches in length, and weighed upwards of 4 lbs. They are of the Churchill variety.

At the Olympia Land office during the month of November, 21,990 acres of land were disposed of.

On the 1st of December the Land office at Olympia was besieged with applicants for land on the west side of Budd's Inlet, quite a number of claims being taken a few miles from town. Probably the terminus is now going to Mud Bay.

Lewiston Journal: In Washington Territory, about 35 miles from Lewiston, Idaho, there is a large excellent valley, now called Dead Man's Hollow. It lies on the south side of Snake river, is well watered and contains excellent arable land, and the surrounding plateaus and rolling hills are covered with the best of grass in abundance. It is a choice place for settlement.

ATLANTIC.

The *Atchison Champion* says there has been a singular mortality among the cattle pastured in the vicinity of that city during the past fall, and many farmers and cattle raisers have lost heavily by it. It is suggested, by some, that it is caused by the animals eating poisonous mushrooms, which, owing to the damp, wet weather, have grown up with unusual luxuriance.

In one county of Kansas alone there are 121 acres of castor beans under cultivation.

MEMPHIS, Tennessee, is the best interior cotton market in the world.

CORROX is coming in rapidly and in large quantities in Atlanta, Georgia.

DURING last month 132,000 acres were acquired from the Government in two districts of Kansas for the purpose of conversion into settlements.

The present price of corn in Texas varies from 50 cents to \$1 per bushel. The former price generally rules in the older counties and the latter in the new and frontier counties.

MISCELLANEOUS.

The Gum Tree—Eucalyptus.

It is desirable for the farmers of this State to obtain the best, cheapest and most readily grown material for fencing. In Southern California, particularly, where wood is scarce and the willow grows too profusely, they need a better and more easily obtained fence. After great care and study by a gentleman who has been in the tree growing business for years, he finds, and is ready to supply the demand and all necessary information, that the gum tree is most readily adapted to our climate and makes the best fence. It is grown in two years so that it can be cut down for firewood, the tree springing again from the trunk, thus keeping the farmer in wood and at the same time keeping a good fence around his fields. Unlike the willow the gum tree grows neatly, making no rubbish, nor spreading out in irregular and uncouth sprouts. People in the valleys are seriously meditating how they are to be supplied with wood in future years. This benefit derived from the use of the gum tree for fencing is of the greatest value.

This beautiful and economical fence tree has still another recommendation. Bees are particularly partial to it, and will swarm upon it in preference to any other tree in the vicinity; honey made by bees having access to this tree is superior in flavor to all others. These facts are of importance, and should be well considered.

Method of Planting.

Trees should be set out or planted about eight feet apart and should grow two years before cutting. They should be cut five or six feet from the ground, and care should be taken in setting out not to break or cut off close to the stem the young branches.

Farmers desiring to plant from the seed will find that in procuring good, fresh seed, that one ounce will produce a thousand trees. The seed should be planted in boxes unless it be in Los Angeles and other southern localities where the climate is free from cold frosty nights. The young plants should grow five or six feet high, before removed from the boxes.

Fire-Proof.

The gum tree will not burn from an ordinary heat, it being of a sticky nature the heat only brings out the gum, and only the youngest trees would be liable to be killed by a close contact with fire. In view of the thousands of dollars that have been lost in fence burning in this State, this feature of the gum tree is most important and valuable. Transplant just before the rains; be careful not to trim off the leaves close to the stem when purchasing young trees; also guard against too much water, and in two years the tree will be ready to cut for firewood, leaving an ever-green fence of utility and beauty around the farm.

THE CALIFORNIA COTTON GROWERS' AND MANUFACTURERS' ASSOCIATION.—We understand that the management of this association has determined to plant 100 acres of their land in ramie, in addition to the 1,000 acres to be devoted to cotton. The line of railroad, now fast approaching that portion of the State, lays directly through the lands of the company, which it is expected will be reached by the month of August next. A portion of the company's property is now being laid out in town lots, for which it expects to realize about \$1,000 per acre (original cost \$5). All the lands of the company will be greatly enhanced on the completion of the road to that point. A staff of experienced overseers has been engaged for the planting operations, and an excellent opportunity is offered to laborers skilled in such planting, thus adding another demand for the idle of the city. Julius Chester, of the firm of Livermore & Chester, has been appointed Resident Director, at Bakersfield; L. H. Bonestill, of San Francisco, is President of the company. Any desired information can be obtained at the office of the association, on Sansome street, in this city, from secretary Johnson.

Mortality Among Sheep.

EDITORS PRESS:—In your paper of the 25th of November last, I notice the fatality to sheep pastured in the mountains. One of the bands of sheep spoken of and near Chico, belongs to me. Now as to the change from the mountains to the valleys below causing the death of so many sheep, I would say that I have been engaged in driving to and from the mountains for the past twelve years, and this is the first season that my sheep have been affected in any way injurious to them. Occasionally I have lost six or eight sheep from my flock of one thousand or fifteen hundred head, supposed to be poisoned. When they died they would froth at the mouth. The froth on its first appearance would be white, after death it would be streaked with blood.

This season, from something less than one thousand head, I have lost seventy-two. The sheep that were opened showed that their death was caused by an affection of the lungs.

There is also something singular as to the age of the sheep that have died. All in my band that died were yearlings, and last year's lambs; not one of the old sheep dying.

It would seem from so many sheep dying this season that there must have been something unusual in the atmosphere to have affected them this year. Three flocks of sheep that I have heard from, which have been pastured here from two to four years have met with small losses, only until this season. This year their losses have been heavy; the sheep dying from disease of the lungs. I have driven my sheep several years, not losing a single individual.

C. C. GOODRICH.

Copperville, Lassen Co., Dec. 11, 1871.

Sheep Dying from Drinking Impure Water.

EDITORS PRESS:—I send you an account of the mortality among the sheep of this county, where they feed on low ground, and have to drink stagnant water. Sheep running on such ground through the summer, commence swelling under the jaws and soon die. The cause is leeches in the liver. Very often, upon a post mortem examination, you will discover a large handful of leeches in the blood-vessels of that organ. They must certainly drink them out of these stagnant pools; and if so, how do they get to the liver. There was a friend of mine living at Cloverdale, in this county, by the name of Isaac Allen, who has lost 400 head since last shearing time.

Sheep that pasture on high land are not subjected to this trouble. I could give you the names of several more in this county, that have lost sheep from the same cause. I have talked with several sheep raisers in this vicinity, and they say that to mix blue vitriol with their salt is the best remedy that has been tried as yet. We had a snow-fall on the night of the 26th ult., but soon disappeared; weather warm now, and wind from the south, and grass growing finely.

JAMES H. SHORTRIDGE.

Cottage Grove, Lane Co., Or., Dec. 5, '71.

KANGAROO LEATHER.—Seven thousand Kangaroo skins, from Australia, have been purchased by parties in this city, who are tanning them at a tannery, located on the northern part of Oakland, opposite Yerba Buena Island. This is the first consignment of kangaroo skins received in this market. The skin of this animal is thin, but exceedingly tough, and makes very pliable, tough, and durable leather, which turns water better than alligator leather. Boots of kangaroo leather will be a new sensation.

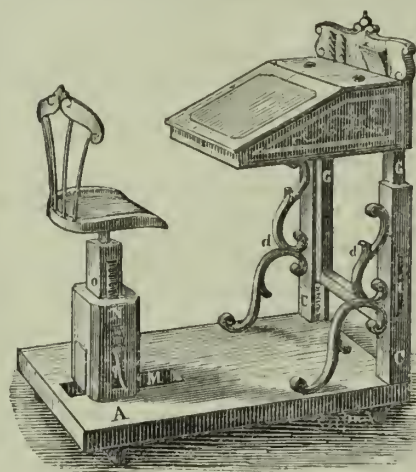
THE SUN-SPOTS.—Prof. Daniel Kirkwood has announced that the period of the sun-spot cycle is gradually lengthening—it being a variable and not a constant figure; and he draws from this fact the conclusion that the cause of this phenomenon is not to be sought in the influence of the planetary bodies, for this influence, being constant, would preclude any variation in its effects; but it must be sought in some purely physical cause operating upon the sun's body.

Watson's School Desks and Seats.

We call the attention of school directors and business men generally to an improvement in school desks and seats which possesses the advantage of being simple and convenient, and that of giving more comfort to those who are compelled to be in a sedentary position for any length of time.

Persons who went to school thirty or forty years ago, no doubt recollect distinctly the uncomfortable forms or benches on which they were compelled to sit for hours, and which seemed to have been made more as a means of punishment than of comfort and ease. Now-a-days, students are treated in quite a different manner, and all the school furniture is manufactured with a view of being as convenient as possible. Our illustration represents a new improvement in this line, which is a desk and seat combined in a simple, portable article of furniture, in which both the seat and desk are adjustable, with relation to each other, so as to accommodate scholars of different sizes.

By referring to the cut, it will be seen that A represents a board about 2½ feet



WATSON'S SCHOOL DESKS AND SEATS.

long, upon which is secured both the desk and seat, so that they can be moved as one article of furniture. This board is placed on castors, for convenience in changing its position. At one end of the board, A, the posts, C, are secured by the braces, d. On the outside of these posts is a channel and a rack. The desk is constructed as usual, but is provided with two legs, G, G, only, which extend downward from the back of the desk. The legs are placed at the proper distance apart to slide down the posts, C, being provided with a tongue that bites in the groove, and are supported by a cross brace at the lower end. A spring pawl, i, is arranged to work through a mortice in the legs and engage with the rack on the standards, while the opposite end is made to be depressed by the thumb, and disengage the pawl when desired. By this arrangement, the desk may be raised or lowered to any desired height, and kept in its position in a firm manner by the pawl. The desk is provided with stationary inkstand and pen-rack, as shown.

A slot, M, is made through the platform, A, in front of the desk where it is desired that the chair is to be placed. This slot is made at right angles to the seat, so that the seat, which is secured in the slot, can be moved to or from the desk as desired. A square block, O, through which is a round hole, fits loosely in the hole through the block, N, having a rack on two of its sides. The sides of the block, N, next to these racks, are slotted, and pawls, g, are arranged to operate in the slots, so that it can be raised or lowered and kept in any desired position. The chair has a single leg or standard, extending down through the block, O, and is confined by a pin beneath, so that it will revolve. The chair may be fixed to the platform through the slot by any suitable contrivance.

The entire arrangement forms a neat and convenient article of furniture, that can be moved about at will, and making a complete desk and seat, suitable not only for schools but for general business purposes. Our engraver has taken some liberties with the model which was placed before him, making the cut a little more ornamental; but it can be made in any style desired, either plain or ornamental. This improvement was patented through the SCIENTIFIC PRESS Agency, by Wiley Watson, of Visalia, Tulare county, Cal., from whom further information concerning it may be had.

Cotton Culture on the Stearn's Rancho.

EDITORS PRESS:—It is well known to the people of California that an experiment in the cultivation of cotton was made this season on the lands of the Los Angeles and San Bernardino Land Co. by Major John L. Strong. In consequence of the excessive drouth, he was forced to plant the crop on some private lands near the coast, instead of on the lands nearer this place which he would have preferred. The location proved, as was feared, too cold; the cotton came up, but did not grow until after the first of July. Warm weather having set in, it commenced to grow rapidly and continued to do so until the middle of October, at which time the plants were very large, vigorous, and covered with buds, blooms, and bolls, promising a very large yield; but at that time a killing frost occurred which destroyed all but the bolls already formed.

As a crop, this was a failure, but the cotton produced from the already perfected bolls has fully sustained Major Strong's prediction in the April number of the *Overland Monthly* which I here copy: "The writer (Major S.) predicts that the cotton of California will command a higher price in the Liverpool Market than the best 'Orleans Middlings.' It will furnish the basis for a class of goods, differing in quality from any now placed in the market. It is susceptible from its fineness, of supplying the place of Sea Island to a great extent for spinning into threads and for the manufacture of laces. Of the medium long staple variety, it can be cleaned by the Saw Gin without damage to the staple; and thus at a price approximating Sea Island is a much more profitable crop."

"I send you an average boll for inspection. Major Strong and others, well qualified to judge, pronounce the cotton fully equal to Sea Island in fineness of fiber, whilst the staple is from one inch to an inch and an eighth in length, thus completely verifying the prediction. It had been possible to plant the crop on the lands further from the sea, it would have been a splendid success, as on most of the land owned by the company there has not been a particle of frost up to this date, and probably will not be until the middle of December. Moreover, in our warmer climate, the growth would have been rapid and continuous from the planting, and the development would have been continuous throughout the season." The Major also says that the fiber is larger and finer than that on his Merced plantation; it is therefore certain that another product is added to the almost endless list of plants adapted to the soil and climate of our famous valley.

A Fine Crop of Corn.

About the first of Juno, fearing, from the continued and undeviating cold weather, that the cotton would prove a failure, Major Strong planted the ground with corn, and has raised, probably, the largest crop of corn ever produced on the same extent of ground in this valley. The quantity is estimated at about 9,000 bushels. This land is peculiarly adapted to corn, and always produces a heavy crop, dry or wet, and is of the most inexhaustible fertility. A man or company who should purchase this land and the adjoining sirnegas or marshes, could make a rapid fortune in raising and fattening hogs.

WILLIAM R. OLDEN.

Anaheim, Nov. 28, 1871.

NAVEL ORANGES.—The *Rural Carolinian* urges the introduction into Florida of the navel orange, which is said to be a hybrid accidentally produced at Bahia, Brazil. Their average weight is about one pound, the skin a bright yellow and of moderate thickness, the meat crisp, juicy, sweet and of delicious flavor. Their great peculiarity lies in the fact that they are seedless, and that each has within it a smaller orange.

It is now shown that no inconsiderable part of the increase of gold in commercial channels is the product of the gold mines of Russia.

AGREES WITH HIM.—It is said that President Grant, since his inauguration, has gained 23 pounds in weight.

THE GREAT WESTERN, built at Bristol, was the first steamship that ever crossed the Atlantic.

POPULAR LECTURES.

THE CHEMICAL AGE.

[By Prof. EZRA S. CARR, of the Cal. State University, before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

Prof. Carr, after announcing that there would be no lecture next Saturday evening, said that the present one would deal mainly with the "Chemical Age, or the First Chapter in the Earth's History." He said that Geology was the Earth's History, written by itself on the rocky strata, in the nature and character of the elements and in its physical features, so plain that "he who runs may read." History is but development, and development implies plan—mind and intelligence. To the true scientist, matter is but the manifestation of His spirit, the expression of the Divine will and the laws of Nature but the modes of the Creator's operation. Let us look at this open language of the Creator, let us read some portion of this in the light of chemical knowledge and learn the first chapter in the earth's history. Shakspeare divides the life of man into seven ages, let us divide that of the world into the same number: 1st.—The chemical age; 2d.—The Age of Mollusks; 3d, of Fishes; 4th, of Coal Plants; 5th, of Reptiles; 6th, of Mammals; the 7th culminating in the Age of Man. Chemists have determined that the entire world, including the air, water, and all solid minerals are composed of 65 forms of matter. The professor, by the use of the blackboard, enumerated the 65 elements comprising the earth, and gave their relative proportions. He repeated some of the experiments of the last lecture in connection with the properties of oxygen.

So far as the world is concerned, to interpret it aright, we must know the elements of its parts. The elements were created before the compounds could be made and when they were first brought into existence and became combined in different proportions, the action must have been very wonderful. From a few simple experiments with the different substances which have an affinity for oxygen, we can form some idea of what the first act of creation must have been. As oxygen has already been considered we will now take up

Silicon.

This substance, in combination with oxygen forms silicic acid, or, in other words, quartz, which exists abundantly in Nature. Silicon is a dark brown body never found in Nature uncombined, having a strong affinity to oxygen. In combination with other substances it forms about one-quarter of all the solid material of the earth. Heated in oxygen or air it burns, forming silica.

Aluminum.

A light body not easily melted, having a metallic luster, and burns, when heated in the air, with a bright light, forming alumina. Very abundant in Nature. This metal alloyed with copper, forms a valuable compound very nearly resembling gold and used in the manufacture of jewelry, etc. The compound called bell metal resulting from this alloy contains 10 per cent. aluminum and 90 per cent. copper.

Magnesium

is a white metal, malleable and brilliant. It fuses at a red heat. Does not exist uncombined with other substances. By burning it in the air it emits a brilliant light showing how readily it unites with oxygen. Potassium, Iron, Sodium and Carbon all combine readily with oxygen.

Potassium

has to be kept in vessels free from oxygen such is its strong affinity for that element. It is soft like putty and readily tarnishes. When exposed to the air it is gradually converted into a white brittle substance called potash. When heated in air it burns with a violet-colored flame. It floats on water which it decomposes by taking away the oxygen to form oxyd of potassium, liberating the hydrogen which burns with a portion of the metal, as you see by this experiment.

Carbon.

Oxygen unites with carbon at a red heat and also when exposed to the air. In the process of burning it combines with oxygen and forms carbonic acid gas. This gas is heavier than air except when in a heated state. I have in this bottle a little carbonate of lime or common marble. By bringing it in contact with hydrochloric acid, (any acid would do as well) car-

bonic acid gas is eliminated. Being $1\frac{1}{2}$ times heavier than air it does not support combustion. By dipping out some of this gas in this little glass bucket and pouring the invisible substance on a lighted taper it is extinguished, as you see.

Hydrogen.

I have in this vessel some zinc and water. By pouring in some sulphuric acid, the hydrogen is set free by the consequent decomposition of the water. No heat is required in this operation, as you see. I prove the existence of hydrogen by lighting the gas at the end of the tube. These soap-bubbles, by rising, show that it is lighter than air. It is explosive, as you may see by holding the taper to the mouth of this inverted jar of hydrogen. It is a combustible body. The union of this body with oxygen, in the proper proportions, forms water. If we decompose water, we will have as a result twice as much hydrogen as oxygen. It is explosive when brought suddenly in contact with the air and heat. This I demonstrate by putting some of the gas in this basin and making hydrogen bubbles, which, as you see, explode with a loud noise.

Phosphorus.

Artificial heat in these experiments is not always necessary. I have here a solution of bisulphide of carbon and phosphorus. On the evaporation of the bisulphide of carbon, the phosphorus ignites the paper.

Chlorine

is generally found in combination with sodium in the form of common salt. I put this piece of antimony into the jar of chlorine, and it burns violently without the necessity of heat. There are certain elements which unite without an elevated temperature. The Professor illustrated some of the bleaching properties of the element by bleaching the color out of a piece of cloth, and the black from a vial of ink. With hydrogen it forms hydrochloric acid.

Sodium

has to be kept from the air. If unites with chlorine to make salt. This vapor in the bottle, the result of the burning of the sodium in the chlorine, is common salt.

Thus we have seen that the great mass of the earth consists of oxygen compounds; that the rapid union of oxygen with other elements constitutes combustion; that water is the burned product of hydrogen, magnesia of magnesium, lime of calcium, alumina of aluminum, silica of silicon, carbonic acid of carbon, and phosphoric acid of phosphorus. In most of these experiments, a certain amount of heat was necessary to start the combustion. But we have also seen that in some cases where the substance was minutely divided, union took place at ordinary temperatures, and that in all the experiments, light and heat were produced in proportion to the intensity of the action. If we now assume that the elements were created before their compounds (which is equivalent to assuming that the sand and clay existed before the bricks in these walls were made), endowed with their well-known properties and projected into space in their atomic condition, a condition most favorable for chemical action—you will at once see in the light of these experiments the inevitable result.

The attraction of gravitation would draw the atoms together; chemical affinity would combine them, and we would have a conflagration compared with those of this lecture, as the few grains of matter I have used compare with the mass of the globe.

From the heat thus produced, our Earth would be a vast aeriform body, a blazing luminous star, in which condition we will leave it for the evening.

RYE.—The *Agriculturist* (Cal.) "strongly advocates" rye as the "most prolific crop that can be grown on upland ranches." If sown early it is sure, and will mature in good season. Several fields of rye have been cultivated in San José Valley, along side of fields of wheat and barley, which yielded well and in good season, while the latter failed on account of the drouth. Rye straw makes pretty good feed for stock, and commands a good price at the paper mills. If cut for hay, it is said to be really superior. Forty pounds to the acre, when sown for grain, is enough. It makes a good nutritious bread, equal to corn, and mixed with corn or wheat, it is said to be better than either alone.

HARROWING CORN.—One Iowa farmer says he can thus make from fifteen to twenty bushels more per acre. I commence, he says, as soon as I am through planting, and harrow until the corn gets large enough to plow. I first harrow across the rows; then, when the corn gets up so I can follow the row, I take a letter A harrow and take out the front tooth and straddle the row until the corn is high enough to plow. In this way you can kill more weeds than you can with a plow and your ground is left in better condition for the next crop.

USEFUL INFORMATION.

SCIENCE PERFECTING SWIMMING.—Frederic Barnett, of Paris, has invented and patented a very novel yet simple apparatus for swimmers. The invention consists in supplying to man by art the apparatus which has been given to the frog by nature. For the hands he has a large membranous fin which is held to its place by loops passing over the fingers and a strap around the wrist. The surface presented to the water by these fins is so large as to add greatly to the effectiveness of the strokes of the arm, but not so large as to exhaust the muscular power. Their effect is to very much reduce the effort required to swim without them. But the greatest ingenuity is displayed in the form and fitness of the fins for the legs, which are attached to the ankles, and are so formed that they act upon the water, both in the movement of bringing the legs together and throwing them back. They act so finely in treading water, as swimmers call it, that one can really walk, if not on the water, at least in it. The difference between swimming with this apparatus and without it, is very much like the difference between rowing a boat with a handle and the blade of an oar. The old swimmer has no trouble in using the fins at first trial, and is surprised to find with what strength he can swim without exhaustion. He easily swims twice as fast with the apparatus as without it, and he can sustain himself for hours upon the water, or swim miles with it.

SOLIDIFYING AND MELTING POINTS OF FATS.—Dr. Wimmel, in *Poggendorff Ann.*, directs attention to the fact that many fats may be made to solidify at two different temperatures. Those fats which yield glycerine by saponification especially show this peculiarity; the temperature at which solidification occurs being lower than that at which melting takes place. When these fats, after melting, are allowed to cool, their temperature gradually falls to a certain point, where for a time it remains stationary, and then exhibits a certain rise as it becomes solid. The definite degree of heat at which this takes place, Dr. Wimmel proposes to call the natural point of solidification, as this point is less chargeable than the melting point—a characteristic the direct opposite of that attending the change of water into ice. The fact that ice is formed at different temperatures has led to the adoption of the melting point of ice as a fixed point from which to measure degrees of heat.

CURIOUS EXPERIMENT.—Mr. Kroeving points out the following mode of determining which of two objects seen from a distance is further off than the other. Let the reader suppose two trees, for instance, standing in a line with the eye; if he moves his eye to the right, the tree which is nearer will appear to move to the left, and the other will seem to follow the motion of the eye. The experiment is curious, and may be easily performed, only taking care to make the eye move in a line perpendicular to that in which it previously was; that is perpendicular to the line which joins the two objects; then the object which follows the motion of the eye is the further of the two.

TO EXAMINE THE INTERIOR OF A CHIMNEY.—It often becomes desirable to examine the interior of a chimney, with the view of observing what may cause the annoyance of smoking. An exchange suggests that for such purpose a piece of looking-glass may be held in an aperture, for a pipe in the chimney wall at a proper angle. If the observer can see the light of the sky, he will also see the whole interior of the chimney, and any obstruction in the same. As most chimneys are straight and perpendicular, reflection will make the top opening clearly visible. Defects which may render danger from fire imminent may sometimes be thus observed and guarded against.

ANOTHER INTERESTING EXPERIMENT.—Take three bowls; pour into one cold water, into another hot water, into the third water that is neither cold nor hot; then place each hand respectively into the hot and cold, and now thrust both into the lukewarm. The hand that was first put into the cold water, will feel hot; and that which was in the hot water will feel cold, although both are exposed to exactly the same temperature. This simple experiment proves that the sensation of heat or cold is, to a great degree, relative, and teaches the lesson that to secure comfort, in extreme climate, we must neither warm ourselves too much in winter, nor cool ourselves too much in summer.

GOOD HEALTH.

The Pulse.

The number of contractions of the heart, measured by the pulse in any of the arteries, is liable to considerable variation within the limits of health, depending on differences of age, sex, muscular exertion, mental condition, state of digestion, and period of the day. As a general rule, the healthy human heart beats as follows, in the respective ages: at birth, about 100 times in a minute; during the first year, about 120; second year 110; third, 100; seventh, about 90; fifteenth about 80; during adult life, 70; in old age, 50 to 70. If the average of the adult male be set down as 70, that of the female will be about 80; in acute disease, the pulse often runs up to 140, and over; in chronic affection of the brain and heart, and under the influence of digitalis, and similar drugs, it may descend to 40 and even 20 per minute. Muscular exertion raises the pulse, the sitting posture, which requires considerable muscular action, increases it about 5 beats per minute above that of the recumbent position; the difference between standing and sitting is about 10 beats per minute. We have a practical proof of this in the phenomena of ordinary fainting; when the heart fails in the sitting posture, the person faints and falls, the less amount of muscular action required in the latter position enables the heart to recover its power, and the person returns to consciousness; nature, in such cases, puts an individual in the horizontal position, which, in itself, is generally sufficient for his restoration. From this we learn, therefore, that when any one feels faint, let him at once lie down, instead of fanning, and slapping, and wetting him in a seated posture. The great difference resulting from posture is also often seen in convalescence, in which an invalid, very comfortable when in bed, faints, and may even die, on assuming the sitting position. In bleeding a person, it is customary to have him sitting up, in order that the resulting faintness may be relieved by lying down; faintness thus produced in a horizontal posture might not easily be recovered from.

Mental excitement and the digestive process increase the frequency of the pulse.

A Few Facts About Homeopathy.

Homeopathy having become quite a successful system of medical practice, we have thought it might be interesting to many of our readers, to note the following facts, which we gather from a late authentic report:—"Seventy years ago Hahnemann planted the small but vigorous shoot, and now behold its roots spreading into all countries. It is naturalized in Austria, Switzerland, Prussia, France, Italy, Russia, Germany, Spain, Brazil, America. In New York alone upwards of 400 qualified practitioners dispense it; in France, about 300.

In England, several hundred medical men openly practice Homeopathically, and the number is daily increasing. These medical practitioners and their lay supporters promulgate their principles through quarterly and monthly journals. There are also six Homeopathic Medical Societies for scientific discussion; four hospitals; seventy dispensaries for the treatment of the poor—a very large amount of public and gratuitous work, when we consider that it has to be carried on by about three hundred practitioners.

In the United States of America there are nearly 5,000 Homeopathic physicians; six colleges, several hospitals, and one or more free dispensaries in each of the large cities.

San Francisco has its share of Homeopathic physicians all of whom have good practice and as a body of professional men, rank high in the estimation and confidence of the people. The Homeopathic Pharmacy, on Sutter street, is a creditable institution, and is conducted on the plan of all the Pharmacies in the United States. The attending clerks are regularly educated for this branch of the business—if any one is desirous of gaining information upon Homeopathic subjects, they can call at the Pharmacy and find every advantage in the way of books, and communicative clerks to assist them. That the system has its favorable points to commend itself to the scientific mind and the sufferings of humanity, there is no doubt—that it has been attended with general success is an acknowledged fact. While Homeopathy is not an agricultural subject, we are ready to give every branch of interest and industry such attention as our columns will admit.



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SAN FRANCISCO:

Saturday, Dec. 23, 1871.

TO POST-MASTERS. The Publishers of the **PACIFIC RURAL PRESS** now offer to the Post-masters and regular Express Agents throughout the Pacific States exceedingly liberal terms for soliciting subscriptions to such a weekly as they can with all confidence recommend with pride, thus promoting home industry; and subscribers will thank and honor you for it. Be cautious of recommending journals which you are not positive are up to the wants of subscribers on this coast. Bear in mind, too, that a monthly journal of equal size to ours, at \$1 a year, is far dearer than the **PACIFIC RURAL PRESS** at \$4, with thirteen issues every quarter. Get up clubs for your home paper. It has a greater variety of fresh and live reading, which is appreciated here, than any other HOME AND FARMING JOURNAL. Its popularity with its readers is unsurpassed. Send for sample copies and rates to agents. Get up lists this year and you can easily renew them next. See subscription rates on 8th page. Work commenced at once will not be regretted. **DEWEY & CO., Publishers.**

Our Weekly Crop.

The bright prospects for the coming year have created quite a stir upon our broad acres during the past week, the first outcrop of which has become manifest in the "Organization of a Farmer's Club for Sacramento." The certainty of a heavy yield of grain calls for additional and improved machinery for utilizing the same, and we have accordingly obtained one of "Best's Grain Separators," and a new kind of "Furnace for Using Straw as Fuel," which might be useful where wood is scarce and farmers foolish enough to burn their straw.

Our library table is loaded as usual with correspondence, among which we find "Notes of Travel in Santa Clara," also in "Alameda" and "Half Moon Bay," and something about "Cotton-growing in California." Our "Horticultural" department is still kept up, notwithstanding the discussions about "Swamp and Overflowed Lands," "Underground Irrigation," and the appearance of "Photographic Ghosts." "Agricultural Notes" possess a peculiar interest about this time, and the "Blue Gum Tree" flourishes, despite the "Mortality Among Sheep."

Our artist has presented us, just here, with an improved "School Desk," which will be found a very convenient piece of furniture while we are attending upon Dr. Carr's "Popular Lectures," and gathering up "Useful Information" for general advantage, and the continuance of "Good Health."

Our Editor steps in here with some advice about "Washing Horses' Feet," some timely information on the production and preparation for use of "The Sponge," and a little talk about "The Blessed Rain." The latter has put us in such good humor, that we have resolved upon a trip to "Woodward's Gardens," where we find many additional novelties. A trip up the river, to Sacramento—"Railroad Communication" being temporarily closed—enables us to attend the meeting of "The State Board of Agriculture," and drop into "The Legislature," where the business of the session is going on rapidly and smoothly.

Returning, we hasten in from the rain and storm and find comfortable shelter and good cheer in the "Home Circle," where we listen to an interesting story about the "Right Kind of a Farm Home;" have a little "Plain Talk with the Girls," listen to the "Music of the

Rocking Chair," take a look into the "Domestic Economy" of the household and then hasten away to hurry up old Santa Claus and see that the storm does not prevent his getting round to all the "Young Folks," before daylight dawns upon the coming Christmas morn.

Washing Horses' Legs.

The use of water in washing horses' legs is quite too often very much abused. Without care, nothing produces more inconvenience. In many places the blessings of pure water have been extolled and received as a cure almost for everything, and, acting upon the belief, the converts imagine that they cannot have too much of a good thing. Results are, however, against the supposition. The evil consequences of an improper washing of horses' legs are cracked heels, swelled legs, grease heels, etc., all of which may be avoided in ninety-five cases out of a hundred.

In many stables visited by the writer the horses, when returning from work, whether cold or warm, tired or hungry, are compelled to stand some minutes, while each leg, almost to the middle of the body, is either washed with very dirty water, or drenched with very cold water from a hose. On many occasions horses have to be thrown off work, in consequence of internal disease arising from such practice. Carriage and hack-horses suffer much from cracked heels, while their breed defeats them, frequently, from grease. All this comes from the treatment to which they are subjected.

To the mere washing of horses' legs, if conducted properly, no one can offer objection. In wet, dirty weather, when the hair is matted with mud, no animal can rest comfortably with such an accumulation about him. If allowed to remain, the sand and grit is moved during exercise to the wrinkles of the skin about the joints, and the parts are chafed, soon becoming raw, and presenting obstinate sores. By all means, let the filth be removed as quickly as possible, using clean water from a bucket. A good sponge and brush, with a small quantity of soap, will also be required.

Next press out the superfluous water and briskly rub with coarse towels, kept for the purpose, and put loosely a bandage upon each leg, as high as the parts have been washed, which should scarcely ever be above the knees or hocks. This process will very certainly limit the number of cases of cracked heels, grease, etc., all of which occur from the amount of cooling to which these parts are exposed when wet.

We frequently hear, in stables, the directions given to "be sure and rub the legs dry." Whoever gives such instructions cannot be aware of the almost impossibility of that which they require, unless men and horses are entirely deprived of rest. The easiest and most economical method is the use of flannel or linen bandages. By their use the legs dry rapidly through the means of natural heat, and in this way the groom will generally be enabled to remove them, and rub down the legs before leaving for the night.

Science Again Triumphant.

The Signal Service Department at Washington, telegraphed to this city on Saturday evening last, that a severe storm of wind and rain might be looked for on the Pacific coast the next day. Sunday dawned as had many other days just preceding, and few gave heed to the warning; but Sunday evening came, and with it rain-clouds and high winds and symptoms of an approaching storm, which as the night wore away, increased to a terrific gale which continued throughout the succeeding 48 hours—thus fully verifying the predictions of the signal officers, two or three thousand miles away. We have here another striking illustration of the progress made in meteorological science, during the few years past. The farmers and miners of the Pacific Coast have been both surprised and delighted with the result, and are ready to note the highest note of praise, if not something more substantial, to the "weather-wise" solons at the national capital. This remarkable instance of premonition, although the first successfully given on this coast, should be received as a hint that our people should take some active steps to utilize this important government service. Such premonitions might be made useful in other ways than directing farmers when to look for rain and mariners when to make provision for "heavy weather." In the Eastern States where the benefits of this system have been more marked, the observations are utilized for the public benefit by causing outline maps of manifold paper to be placed in hotels, telegraph offices and other public places, every few hours, wherein the courses of storms, even at distant points, are traced and exposed to public view. Why might not this arrangement be carried out in San Francisco.

The Sponge.

EDITORS PRESS:—Will you give through the columns of your valuable journal some information about the preparation and bleaching of the sponge, and oblige many of your readers besides T. MEILLINGS.

San Francisco, Dec. 1871.

The recent discovery of sponge on the coast of Santa Barbara has attracted considerable attention to the possibility of adding the production of that article to the numerous and varied industries of California. There is a great range in the form and relative fineness and softness of the sponge, varying in the latter particular all the way from the velvety and almost white sponges employed in the toilet, to those of so stiff and compact texture, as to crumble easily when dry, their harshness rendering them entirely useless in the arts. The different varieties are sometimes known as sheep-wool, velvet, glove, yellow, hard head and grass. Those found on the coast near San Buenaventura, according to the *Signal*, are of very fine quality, and although cast up upon beach, bear every evidence of having their origin in that immediate vicinity. Some sponges live in very deep water, others in shallow, and they greatly increase in size and number from cold to warm latitudes.

The sponges of commerce are mostly obtained from the Mediterranean and the Bahamas. At the port of Nassau about 30,000 pounds are gathered annually. The French and Austrian Governments have begun to raise the sponge artificially, and the experiment has been pronounced not only successful but very profitable. The sponge may be as easily transplanted as the oyster. It is propagated naturally by little hairy germs, carried out of the body of the parent by currents, which, after floating about awhile, much like the oyster, finally attach themselves to a rock or some other convenient substance and then commence their permanent growth. If a young and vigorous sponge is taken from its original location and transplanted—its roots being properly secured—it will continue to increase in growth, and also throw off germs for new individuals. The pores of the sponge are its mouths, through which it receives its nourishment—its roots are merely the means of retaining it in place, not for receiving nourishment.

The sponge is considered the connecting link between animal and vegetable life. A jelly-like substance fills the pores of the living sponge, which may be considered its animal substance, while the fibrous material which remains after that is removed—and which constitutes the sponge of commerce—constitutes its vegetable substance.

In the larger and coarser varieties the animal matter is very abundant, and of a sickish, disagreeable odor, and soon enters into putrefaction when removed from the rocks and brought to the surface. Such sponges are buried in dry sand until the animal matter has become thoroughly putrefied, when they are placed in iron cages and subjected to the action of the tides. The calcareous matter, which is also more or less abundant in all the varieties, is dissolved out by immersion of the sponge in very dilute hydrochloric acid. They are first thus soaked, then dried and beaten until all earthy matters have been removed.

To bleach sponges, the finest are selected, and after the above treatment, thoroughly washed in clear water and then submitted to another bath (this time warm) of dilute hydrochloric acid, in which 6 per cent. of hyposulphate of soda has been dissolved. After remaining in this bath from 24 to 48 hours, the sponge, if of a fine variety, will be as white as snow or "sheep-wool"—the name by which it is known.

Sponges are found as far north as Great Britain, on the shore of which, it is said, not less than 24 species have been noticed. The climate of the southern part of this State is probably as well adapted to the growth of this article as are the French and Austrian shores of the Mediterranean. Experiments in their cultivation here would undoubtedly meet with much success and profit.

FIVE YEARS IN ADVANCE.—An appreciative subscriber in Solano county, who has known our business for years, recently paid our agent (it being convenient) for five years in advance for the **PACIFIC RURAL PRESS**. Besides this substantial faith in our enterprise, our agent received generous treatment and words of encouragement highly appreciated by such active laborers.

The Blessed Rain.

Never in the history of California has a regular drenching rain fallen so opportunely or been more gladly welcomed than that which we have received during the past week. It has been the most general and profuse of any which has fallen for several years. The rain gauge of this city indicates a fall of 8.51 inches from the commencement of the storm, on Sunday night, until this present writing, Thursday morning. At times the rain fell in torrents, and the wind blew a gale during Monday and Tuesday. The damage throughout the State has been but trifling, while the benefit must be counted by millions.

The full measure of abundance for the time has been reached. The storm closed with a marked rise in both the thermometer and barometer, thus winding up the pluvial favors with warm and gentle showers, the waters from which rapidly soaked into the ground, well prepared by the earlier rains to receive and utilize them to the fullest advantage. Our farmers can now continue confidently the work of preparing their land and putting in their seed with every assurance that they will realize crops fully commensurate with the capacity of their soil and the skill and extent of their labor. The miners are also rejoicing in an abundance of the aqueous element, so necessary to a successful prosecution of their business. And as on these two branches of industry hang the success of all others on this coast, our people may now look forward, with the utmost confidence to a year of unexampled prosperity. The State is to-day many millions better off than it was a week ago, and the riches thus stored up by a bounteous Providence, will answer promptly to the call of both farmer and miner, where they make proper application; for all of which favors we should heartily thank the Giver of the Blessed Rain.

THE RAINFALL.—The rainfall for this city, from Sunday last to 8 A. M. Thursday, was, by Tennent's gauge, 8.50; total for the season, 12.53.

At Oakland, from Sunday to 8 P. M. Wednesday, the fall was 6.0; total for the season, 11.6.

At Antioch, the present fall to 9 P. M. Wednesday, was 9.96; total for the season, 11.51.

San Rafael—Present fall to 9 P. M. Tuesday, 14.35.

Sacramento—Fall for the season to 4 P. M. on Wednesday, reported at a fraction over 7 inches.

Vallejo—Present storm, up to 8 A. M. on Tuesday, 3.40 inches.

Alameda—Fall for the season, up to 8 P. M. Tuesday, 11.6 inches.

Grass Valley—For the present storm, to 9 A. M. Tuesday, the fall was 9.28 inches.

Nevada—Up to 12 M. on Tuesday, 13.6 inches were reported.

The following figures giving the rainfall up to Dec. 31st of each year, from 1849 to 1870, will be read with interest in connection with the above:—1849, 18.00; 1850, 2.30; 1851, 10.46; 1852, 19.31; 1853, 5.22; 1854, 3.72; 1855, 6.43; 1856, 7.08; 1857, 8.13; 1858, 9.78; 1859, 9.75; 1860, 7.86; 1861, 13.66; 1862, 2.90; 1863, 4.38; 1864, 15.94; 1865, 5.27; 1866, 18.62; 1867, 14.34; 1868, 5.67; 1869, 6.91; 1870, 3.84.

It will be seen from the above that in 22 years, the rainfall at the close of December, has only in six instances exceeded the amount we have already received for the present year, up to the morning of the 21st.

IMPROVED STOCK.—It is encouraging to notice the interest which is being manifested in various parts of the State in the improvement of stock. We have before us a list of some 200 head of blooded stock which Col. Saxe has disposed of the past season, in various portions of the State. We shall give the different localities where they were sold in our next, with some extended remarks on the importance of rearing good stock in preference to that which is inferior.

RAILROAD COMMUNICATION between this city and the interior is temporarily closed by the severity of the storm washing away embankments and bridges, and overflowing the low lands, and the travel has gone back to the old river route.

Woodward's Gardens.

This popular place of resort is situated on Mission street, between Thirteenth and Fourteenth streets, and contains nearly six acres. In our issue of Jan. 14, 1871, we published quite an extended description of its chief attraction, accompanied with an engraving of the conservatory; and we now give a general view of the grounds and buildings.

Directly in front of the gateway is the Museum, which is filled with a varied collection of natural and artificial wonders, gathered from different parts of the world. To the left of the Museum the Conservatory will be recognized, by its glass roof and sides, which admit the light and rays of the sun upon the flowers and plants. The Art Gallery is immediately behind, and connected with the same building.

The large edifice upon the hill to the right is the Pavilion, which encloses one of the largest audience rooms on the Pacific Coast, the dress circle alone accommodating 3,000 spectators. The floor is solidly laid, perfectly fitted and smoothly planed, making a magnificent skating rink. A Turkish mosque stands in front of the Pavilion; and to the left of the engraving an artificial lake, rotary boats, and fountains will be noticed. In the grounds are also a gymnasium, fitted with ladders, bars, rings, etc.; a complete poultry house, amphiheater, and menagerie, the latter containing wild animals from various parts of the globe.

These gardens are one of the important features of San Francisco, and are visited by almost all strangers who come to the city. They are a fine playground for children, a romantic retreat for family picnics, and a pleasure park, where the public may resort to inhale the pure air, view the curiosities and pass the time in an agreeable and instructive manner. They are in a word, an union of park, garden, conservatory, museum and menagerie. They are a benefit to all classes, and the public enterprise of the proprietor is worthy of commendation of the whole community.

Chicory and Its Uses.

The best use and largest profit derived from chicory, is in making coffee from the dried roots. As a forage plant it makes a valuable fodder for cattle, horses and mules; whilst sheep are particularly fond of it. It is especially valuable for soiling or feeding in the stable, green, or if grown with, or mixed with, clover or alfalfa it makes a good hay.

If mown at proper intervals it will, like alfalfa, produce three or four crops in a season. The young shoots in the spring make an excellent salad, and a field of it in full flower is an object of beauty. The root is also an excellent food to fatten hogs upon.

If cultivated for making coffee, the roots should be allowed to grow undisturbed, except from the necessary cultivation, for at least three years, and four would be better; but in three years the roots attain to the size and appearance of large, long parsnips, and upon alluviums or lands with a loose, friable subsoil, will grow three feet in length.

From six to eight pounds of seed will sow an acre, and this properly cultivated will yield 50 tons of roots at three years from the planting. On being dug, they are immediately cleaned and cut in pieces by a simple cutting machine, and then roasted in an oven till they assume the color of properly roasted coffee, then ground and packed like coffee.

In the operation of drying or roasting they lose five-eighths of their weight; but at the present price of the article in the market, six cents a pound, wholesale, an enormous profit is afforded.

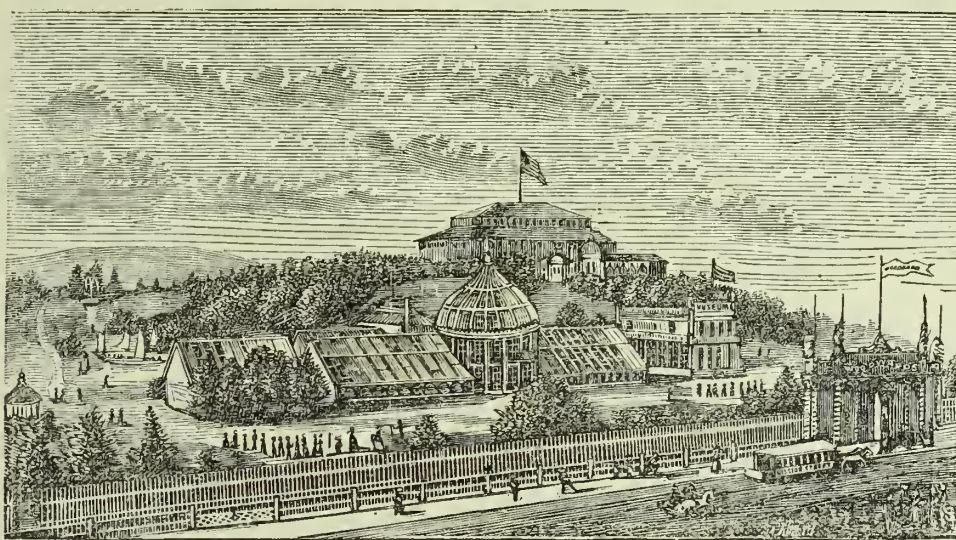
Chicory is largely imported into the United States from Belgium, France, Germany, and Holland. It is extensively used throughout the world for mixing with coffee, the proportion being generally about one-half. It can hardly be considered as a base adulteration of genuine

coffee, from the fact that very many persons use it alone as coffee, preferring it even to the genuine article. In California the season of growth is so long, that roots attain a larger size in three years than in four or five in the Eastern States or Europe.

INFORMATION WANTED.

MR. GEO. W. DIETZLER writes us from Lawrence, Kansas, as follows: "I am a subscriber to your valuable journal, and hesitate not in pronouncing it the best agricultural paper published in the United States. The descriptive letters of your traveling correspondents are particularly interesting to me, as I, with several others from this county, contemplate emigrating to the Pacific slope next spring. But I do not propose to write a puff; but rather to request that you publish, at your convenience, a description of the islands on the coast of California, giving names of present owners, or where such information can be obtained. We have means, and intend to purchase considerable land, with a view of engaging in stock-raising; we might fancy one of the 'isles of the sea' for such purpose."

We have very little knowledge of the condition of the islands, generally, which lie scattered along the southern coast of this State. Some of them, however, we know are used for raising goats, but whether for any other purpose we are not informed. The query of our



WOODWARD'S GARDENS, SAN FRANCISCO.

Kansas correspondent is a very interesting one, and we trust some of our correspondents will furnish the information required for publication in the columns of the RURAL PRESS.

SECOND CROP OF BARLEY.—Mr. O. Hyde, of Sacramento, writes us, under date of Dec. 13th, as follows: "EDS. PACIFIC RURAL:—Herewith find sample of barley plucked from a field about four miles from this city, the growth of this winter. For a dry season, in which farmers are talking of emigrating, this don't look like a bad country to live in. At this rate of growth, two crops can be taken from that ground. I should judge from the appearance of the grain, that two weeks of sunny weather would ripen it ready to cut. You can form your own conclusions; to me it appeared a curiosity."

The heads received are large, full and well formed, and would undoubtedly have ripened within the time specified by our correspondent. Whatever may have been the opinions of some of our farmers, a week ago, with regard to emigrating on account of the prospects of another dry season, we presume they are very well satisfied on that point now.

"T. H. H." encloses subscription for renewal and adds: "I take several newspapers and read a great deal of all kinds of good substantial matter; but after a fair trial of one year in reading the PACIFIC RURAL PRESS, I can say that it furnishes the best and most useful reading matter which I can procure. It contains the largest amount of valuable information of any paper I have ever read, and it fills the great vacancy in newspaper literature, so long felt by all classes of industry in this State, and more particularly by us farmers and stockmen. I would not be without it for \$150 per year. Long may it live and prosper. May it never die!"

Yesterday I obtained two subscribers for it, and shall get up a club of ten names with \$30 and send you by the 1st of January.

The efforts and kind wishes and words of our correspondent are duly appreciated. By the aid of our friends the list of the RURAL PRESS is constantly increasing. We have added about 130 names within the past ten days.

ON FILE.—"W. M. A., from Indian Valley; "J. P., on the "Walnut Trees in Contra Costa." The query from "S. H. B.," asking how to kill sorrel, next week.

State Board of Agriculture.

The State Board of Agriculture held a meeting for general business at their rooms in Sacramento on Saturday of last week, at which there were present C. F. Reed, President, and Directors Younger, Cary, Covey, Wheeler and Coleman. Three bids for rent of the park for the ensuing year were opened. That of Robert Allen being the highest (\$5,000,) was accepted.

Gold Medals.

The report of the Committee on Gold Medals was read and received by the Board, when H. M. Bernard made an oral protest to the award of the medal in the second department, on the ground that the award was not in accordance with specifications and rules of the society, and not for the most meritorious exhibition in that department. The board decided to take no direct action in the premises, but instructed the Secretary to communicate the facts to the Gold Medal Committee.

Annual Meeting.

The time for holding the annual meeting for the election of officers for the ensuing year, and for other business, was set for

The Legislature.

The Inaugural ball came off at Sacramento on the evening of the 19th, and is reported as a grand affair, but owing to the stormy weather the attendance was not as great as was expected.

On Tuesday an election for U. S. Senator to succeed Hon. Cornelius Cole was held. Hon. A. A. Sargent and W. T. Wallace, of Santa Clara, were nominated. On the first ballot 118 votes were cast, of which Sargent received 72 and Wallace 46, and the former was declared duly elected.

A message from the Governor of Nevada was received in the Senate containing a joint resolution passed by the Legislature of that State asking the State of California to cede the territory east of the Summit of the Sierras to Nevada.

A bill has been introduced by Mr. Days of Nevada, providing that all mining corporations, employing twelve men, and having a shaft sunk to the depth of 300 feet or more, shall have an outlet beyond the main shaft, through which the men may escape in case of accident. And, should companies neglect to supply this means of escape, they may be held liable to the injured parties for damages.

Mr. Spencer, of Santa Clara, introduced a bill in the Assembly providing that parents and guardians having control of children between the ages of eight and fourteen years shall require them to attend school at least twelve weeks during the school year, and six weeks consecutively, unless they shall be excused by the Board of Trustees, on account of inability or on account of attendance at some private school. Any violation of the Act is made punishable with a fine varying as the offense is repeated.

Mr. Betge, of San Francisco, introduced in the Senate, a bill creating the office of and defining the duties of State Forester, and giving the appointment of the office to the Governor. The Forester is to receive a salary of \$3,000 per annum, and is to be allowed for traveling expenses \$2,000 more. His duties are to gather, exchange and import the seeds of timber and forest trees, and distribute the same to County Forest Boards as he may see fit, and, in the discharge of these duties, he is authorized to incur expenses not exceeding \$5,000 per annum. The Board of Supervisors of the several counties are to constitute County Forest Boards of such counties, but without compensation. The State Forester is also, at some convenient place, to establish a nursery for planting seed, and rearing trees, and acclimatizing foreign and exotic trees—this expense to be borne by the State, though not to exceed \$4,000 per year, including rent of land, labor, etc. He is required to visit the different counties, and see that the work progresses as he directs. The trees in the nursery, when grown, are to be distributed to the Forest Board according to climate and requirements. The bill further requires that all agricultural and horticultural societies, receiving State aid, shall award a special premium for the largest and best plantation of forest or timber trees grown subsequent to the passage of this Act. It authorizes the Boards of Supervisors of the different counties to levy a special tax, to constitute the Forest Tree Fund, to be expended in the procuring of forest trees and the planting of the same along the public roads, as protection from the sun.

COMMENCE YOUR GARDENING.—In the lower valleys of California it is now fully time to commence planting for early vegetables, including potatoes, peas, turnips, beets, radishes, lettuce, etc. Let ruralists economize and grow fat, and healthy by having good gardens.

the 24th. day of January next, at two o'clock P. M., at the Pavilion.

Fair for 1872.

The time for holding the next annual fair was fixed to commence on Thursday, the 12th of September, and close on Saturday the 21st. of the same month.

District and County Societies.

A vote of thanks was passed to the officers and members of the several district and county agricultural societies of the State and the Mechanics' Institute, of San Francisco, for the earnest and efficient support they have all given the State societies the past year, and the Secretary was instructed to communicate the fact to them. Also, to confer with the officers of such societies in reference to the preparation of a bill to be presented to the present Legislature, asking an appropriation to each of said societies to enable them to give liberal premiums in 1872.

Signal Service Committee.

Dr. T. M. Logan of Sacramento was added to the Signal Service Committee. The Committee now consists of the President—C. F. Reed—Corresponding Secretary I. N. Hoag and Dr. Logan.

The resolution was also adopted, and the Board adjourned to the call of the President.

PEAT IN LOS ANGELES COUNTY.—Our correspondent, Wm. R. Olden, writes us that "a large bed of peat has recently been discovered on the Bolsa, Stearn's Rancho, which will furnish an ample supply of fuel for 50 years to come. This discovery is peculiarly fortunate, as timber for fuel is both scarce and distant from most of the settlements. Irishmen who are supposed to "know peat," pronounce the quality excellent. Seeding has commenced here in earnest, and every one expects plenty of rain and a favorable year. Numbers of people are settling in the valley from all parts of the State, but there is room and space for thousands more. According to the average of previous seasons we should now have five years of abundant rain—if so, look for a glut in your market."



Right Kind of a Farm Home.

[The following pleasant sketch of what a farmer's home should be is from *Harper's Magazine* for February. We trust the farmers of California as they build their homes will pattern after the picture first described.] Early in October, Lance and Laura were married, and moved into their new home. It was far from being a fashionable or imposing residence, unless we except Laura's one extravagance—the little bow-window; but it had an eminently cozy, homelike air. The moment you stepped inside, you received a comfortable, cheerful impression, as if here were a place where people were in the habit of enjoying themselves.

Entering a little square hall—on one side was the dining-room; on the other, the parlor; back of the parlor, the bed-room; the furnace imparting a summer temperature, the doors of their adjoining rooms all stood open, giving good air, and a deal of roominess for so small a house. The parlor paper was a green and gilt flower on a light drab ground; the carpet, an ingrain, small checks, green the predominant color. Through the bow-window the sun shone brightly in over Laura's plants, making a summer within, even if it were winter outside. Each side of the bow-window, on little brackets, were Parian busts—Eve and Psyche—wedding presents, looked out from English ivy that twined around them, and then met over the hanging basket in the middle of the window. On the walls hung two or three good engravings and photographs, over them clusters of bright autumn leaves. A set of hanging book-shelves, bearing the united libraries of Lance and Laura, presented an odd combination of poetry and works on Agriculture and "The Horse." Then there was a lounge which was a lounge—not a rack contrived to exasperate the human frame to the utmost by its knobiness—an easy-chair, a camp-chair, a shaker rocking-chair, one or two cane-seated chairs, a centre-table with the big lamp, books, papers, and Laura's work-basket.

This was the family sitting-room. Looking in of an evening, you would have seen Lance one side of the table in the big easy-chair, reading his paper, or chatting with Laura, sitting opposite in her shaker rocker with her sewing. One great advantage in marrying a farmer is, that you have him at home with you evenings, provided you make yourself tolerably agreeable to him. Laura, even if she were married, still thought it worth while to fashionably arrange her hair, wear the bright bow, the dainty collar, the little et ceteras that really add so much to woman's attractions. Lance had too much respect for Laura and himself too to sit down for the evening in his old frock, tumbled hair, overalls tucked into coarse boots, savoring strongly of the barn-yard. He brushed his hair, donned an old coat and slippers, and so, with a little trouble, gaining vastly in comfort and his wife's affections.

From their windows the light of a happy home streamed cheerfully out, a benediction to the passer-by. People were fond of dropping in there for an evening, it was "so pleasant," they said. Many a farmer's boy and girl, after an evening at Lance's, went home thinking farming wasn't so bad, after all, and they wouldn't be in such a hurry to grow old enough to leave for the city, if it could be as pleasant at home. For fashion in Knipsie Farms had generally ordained an entirely different order of things from that prevailing at Lance's. The parlor of every respectable farmer must contain a very hard and slippery hair-cloth sofa, six chairs, and a huge rocking-chair possessing the same qualities in even a greater degree; other furniture to correspond, arranged at stiff angles around the walls. This sacred apartment, as well as the whole main part of the house, was kept cold, dark, shut up, suggestive to the bold invader who dared penetrate their dreary shades only of funerals. The family lived mostly in the kitchen, sustained, probably, by the proud consciousness of possessing a best parlor and hair-cloth furniture. Passing by at night, you would think the house uninhabited, did not a ray of light from way back in the L reassure you. Did company come unexpectedly,

so great a parade was made of building fires, opening rooms, getting out the best things, that the unfortunate guest felt he should never dare come again. So Lance and Laura were unconsciously doing missionary work that a farmer's home need not necessarily be destitute of any desirable comfort or refinement.

Plain Talk to Girls.

Your every-day toilet is part of your character. A girl who looks like "fury" or a sloven in the morning, is not to be trusted, however finely she may look in the evening. No matter how humble your room may be, there are eight things it should contain, viz:

A mirror, wash-stand, soap, towel, comb, hair, nail and tooth brushes.

These are just as essential as your breakfast, before which you should make good use of them. Parents who fail to provide their children with such appliances, not only make a great mistake, but commit a sin of omission. Look tidy in the morning, and after the dinner work is over improve your toilet.

Make it a rule of your daily life to "dress up" for the afternoon. Your dress may not, or need not be, anything better than calico, but with a ribbon or flower, or some bit of ornament, you can have an air of self-respect and satisfaction that invariably comes with being well and neatly dressed.

A girl with fine sensibilities cannot help feeling embarrassed and awkward in a ragged, dirty dress, with her hair unkempt, if a neighbor comes in.

Moreover, your self-respect should demand the decent appareling of your body. You should make it a point to look as well as you can, even if you know nobody will see you but yourself.

Saturday Night.

Some one beautifully says: "Saturday night makes people human, sets their hearts to beating softly, as they used to do before the world beat them into drums and jarred them to pieces with tattoos. The ledger closes with a clash, the iron-doored vaults come to with a bang, up go the shanters with a will, click goes the lock. It is Saturday night, and business breathes free again. Homeward, ho! The door that has been ajar all the week gently closes behind him, the world is all shut out. Shnt out? Shnt in rather. Here are treasures after all, and not in the vault, and not in the book, save the record in the old family Bible, and not in the bank. May be you are a bachelor, frosty and forty. Then, poor fellow, Saturday night is nothing to you, just as you are nothing to anybody. Get a wife, blue eyed or black-eyed; but above all, true-eyed. Get a little home, no matter how little, a sofa just to hold two, or two and a half, and then get the two in it, of a Saturday night, and then read this paragraph by the light of your wife's eyes, and thank God and take courage."

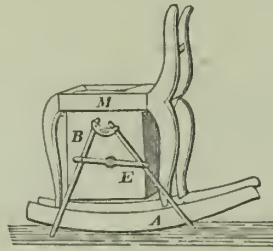
A CHILD'S FAITH.—In the Highlands of Scotland there is a mountain gorge 20 feet in width, and 200 feet in depth. Its perpendicular walls are bare of vegetation, save in the crevices, in which grow numerous wild flowers of rare beauty. Desirous of obtaining specimens of these mountain beauties, some scientific tourists once offered a Highland boy a handsome gift if he would consent to be lowered down the cliff by a rope, and would gather a little basket full of them. The boy looked wistfully at the money, for his parents were poor, but when he gazed at the yawning chasm he shuddered, shrank back and declined; but filial love was strong within him; after another glance at the gift, and at the terrible fissure, his heart grew strong, and his eye flashed, and he said, "I will go if my father will hold the rope." And then, with unshrinking nerves, and heart firmly strong, he suffered his father to put the rope about him, lower him into the wild abyss, and to suspend him there while he filled his basket with the coveted flowers. It was a daring deed, but the faith in the strength of his father's arm, and the love of his father's heart, gave him courage and power to perform it.

A BIG GRIDDLE.—They are some on "griddle cakes" at Vassar Female College. The old griddle became worn out after years of faithful service in the cause of true reform, and a new one has just been finished by a Poughkeepsie firm. This delicate instrument might be used as the floor of a room, being of the dimensions of ten feet by eight, and its carrying capacity is set down at "five hundred cakes at a single fry."

Music of the Rocking Chair.

A good rocking chair, says Henry Ward Beecher, is almost an instrument of music. It has a special note for various functions. When grandma sits knitting and swaying with the gentlest motion, the rockers keep up a low, contented purr, a sort of drowsy creak that is given forth to no other one. When the old nervous gentleman gets in, the chair turns up with a sharp, jerking crack, as if a series of small torpedoes were going off. Then when aunt Sally, who is very fat and heavy, sits down, a long and melancholy whine issues from the chair. But when only the children are in it, the old rocking chair goes whicketty-whack, whicketty-whack, in the most gleesome manner.

These sociable chairs never come from modern builders. The moment a cabinet maker has once touched a French chair his usefulness is over. Comfort forsakes his fingers. The old-fashioned workmen who made old-fashioned rocking chairs with strong joints but every joint with a tongue in it, are these not Nature's workmen? Do they not keep up in their chairs the forest sounds? This very creak that I now hear



is like the weary swinging of a bough pleading with the wind to let it alone and suffer it to fall asleep. This sharp cracking I have heard before, when frost had screwed up every branch and twig to its utmost tenuity.

But here comes a Yankee inventor who hasn't a spark of poetry in his composition. See! He has made a rocking chair with a churn attachment, by which it is made to go wishy-washy, whop; wishy-washy, whop, until the agitation produced brings out a fine lump of fresh butter. This is the utilitarian view of the rocking chair.

Referring to the engraving, it will be seen that the space beneath the bottom of the rocking chair is occupied by a square vessel, which constitutes the churn, the dasher of which is operated by a crescent-shaped rock lever, R, with arms projecting to the floor and connected with levers attached to the dasher at E. For further particulars, refer to Jay & Yoance, Wabash, Indiana, or see Patent Office Reports 1867, Vol. 1, page 862.

TRUE WORDS.—Never be ashamed of ever having loved any one. If perchance you have hated, then blush for it, but not for love. It does not matter at all whether the person on whom your affections fixed themselves reciprocated the sentiment. Where there is no shame in loving, in itself the fact of having given love without reward can bring none with it. You have only bestowed a gift more priceless than any jewel can be, upon one who did not thank you.

Since there is sorrow to one's self in it, it is best to struggle with the heart, and keep it until it is asked for; but if it goes forth, despite all effort, there is no need to feel like a guilty thing, and long to hide from your very self. Providence gave you that great love, and I believe that somehow it will mingle with the life it hovers over, and shed a perfume and lend a sweetness to it, though it has never been spoken.

Many a woman's life has shrivelled away under the weight of "disappointed love," merely because her shame in it was so great. The false sentiment that teaches her to scorn a natural feeling has worn her beauty away, and robbed her of all hope in the presence of the future. I think it would be better if even a woman dared to say, "I loved him, but he did not love me," with the same sweet sadness with which, when years have glided, she can utter the words, "I loved him, and he died."

CAREFULLY avoid those vices which most resemble virtue; they are a thousand times the most ensnaring of all vices.

THE first ingredient in conversation is truth, the next good sense, the third good humor, and the fourth wit.

Young Folks' Column.

Christmas Eve.

Up stairs there are pillows,
As daintily white,
Where gay little sleepers
Are waiting for light.
All sweetly at rest,
In their beautiful dreams,
So full of bright visions,
For Christmas' first gleams.

And now, while they're dreaming
Of Santa Claus, old,
He is laughing besides them
Their smiles to behold.
By the first morning beam,
Yes, earlier, too,
You'll hear their glad shouts,
"Merry Christmas to you!"

Away in the darkness,
Of drearier streets,
Where the shadow of want
And misery sits;
Sail, poor little children
Too early grown old,
Sit crouching together,
And crying with cold.

No white pillows give
These little ones rest,
No bright dreams of morning
Can make their hearts blest.
They wonder in weeping,
What wrong they have done
That Christmas brings them
No presents and fun.

A Christmas Letter.

DEAR YOUNG READERS OF THE PRESS:—I have just finished packing up my baskets and boxes for my trip over the housetops of the world on Christmas Eve. Dasher and Prancer have been newly shod with silver shoes, and I have been at odd times, polishing up my bells, and mending my robes. My sleigh has been freshly painted and newly cushioned, and from Alaska I have been presented with the warmest, handsomest overcoat of fur I ever saw.

I shall jingle my bells merrily when I get started. My reindeers are just prancing in the barn and anxious for a run. I shall rush through Idaho, Montana, Utah and Oregon like lightning, and when I get to California I expect the stockings will all be hung up and every eye shut close so that I shall not be seen as I crawl down the chimney. If there are any poor children in your city who have no father or mother, I expect kind friends will see that their stockings are ready for I do not wish to slight one poor child on my yearly visit.

I have already several immense baskets full of the prettiest things you ever saw for the Chicago children, who were homeless and hungry after the fire.

"The truth is, from Christmas to Christmas I go wherever young children are moving below; and though they don't see me, I often peep out to see what the girls and boys are about. And if naughty or good I remember it all to punish or please at my next Christmas call. Now, dear little children, remember my laws, With the love of your friend OLD SANTA CLAUS."

Oddities to Smile Over.

There is no *see side* for the blind. Square dances are said to be coming round again.

Owls are very contemptuous, they hoot at everything.

To prevent having *flts* buy clothing of slop-shop dealers.

Railroads must be very affectionate they have such strong *ties*.

A dog's tail is the only successful *purp*-petual motion in use.

The development of *specie* is an important matter now-a-days.

A dog will give indications of hot weather—just notice his *pawls*.

Tooth pulling and a wide awake hat are similar for both are *felt*.

In the language of flowers, truth should be represented by the *lie lack*.

Names of Pacific States.

Oregon—Signifies wild majoram.

Idaho—The Gem of the mountains.

Utah—A hut.

Nevada—Snowy.

Now who can give the correct origin and meaning of the words California and Arizona?

Answers to Last Week's Puzzles.

No. 1—Victoria.
No. 2—Leavenworth.
No. 3—Island of Ivia in the Mediterranean sea.

Letter Puzzles.

U-o-s-i-a-n-j-a-n-q is a county in California.
L-e-u-r-t-a is a lake in California.
B-m-o-t-d-h-l-n is a bay on the Pacific Coast.

DOMESTIC ECONOMY.

Tools for the Women.

A year or two since the writer had a circular stairway erected in her front hall by a professional stair-builder. The tool chest of that workman was to her a curiosity shop. What delicate gouges were there, what polished chisels, what fine-toothed saws, what fancy planes! Whenever that artisan had a nice piece of fitting to do, out of the recesses of that chest came just the tool for the occasion.

Now, a housekeeper operates in cloth, and meat, and flour as materials, just as a carpenter works in walnut, and pine, and white wood. She needs the most appropriate tools, and she cannot do good work without them. Why are not women as well supplied with implements for performing their various tasks as are workers in stone, and wood, and iron.

Before the American Institute Fair came to a close we went from end to end of that great building, with note-book and pencil, setting down ever invention that promises relief to women. Many of these are simple conveniences. For instance, there is a clothes-line holder that will fasten a line of any size, filled with clothes of any weight, in wind of any force, without knotting, tying, or untying. There is a sliding-gauge button-hole cutter instantly set to cut any size required. There are castors for sewing-machines which allow the machine to stand firmly when in use, yet permit it to move about when desired with the greatest ease. There is the automatic bobbin-winder for shuttle-machines, which will wind the bobbin with the uniformity of spool-cotton while one is sewing.

For invalids we noted two or three valuable conveniences. Foremost among these is the earth-closet. There is a folding-bed and settee combined, always ready for use. There is a stuffed chair with iron frame that can be put in a great variety of positions, with foot-rests and arms. A chair and step-ladder combined makes a valuable addition to our library and kitchen furniture. The mica lamp-chimney is a desideratum longed for by housekeepers; it does not break by expansion or contraction from heat or cold, and is easily cleaned. The combination brush and mop-holder by unscrewing a little clamp, may be converted into broom, mop, brush, scrubber and pope's head.

There is a mode of fastening window-shades without springs, pulley-brackets, or racks. There is a baby-jumper mothers will find convenient for young children, and combination toy-blocks invaluable for those of larger size. There is a lightning chopper that makes play of preparing mince-meat and sausages. There is a reversible griddle that cannot fail to produce batter-cakes perfect in shape and defy the most awkward Bridget to make them ragged in turning. There are washers and wringers that reduce the labor of cleansing clothes one-half or two-thirds, according to the skill of the operator in using them. Let husbands who love their wives remember them with a gift of some one of these conveniences when Santa Claus makes his Christmas call adown our stove-pipes and through our register.

MORE ABOUT APPLES FOR HUMAN FOOD. With us the value of the apple, as an article of food, is far underrated. Besides containing a large amount of sugar, mucilage and other nutritive matter, apples contain vegetable acids, aromatic qualities, etc., which act powerfully in the capacity of refrigerants, tonics and antiseptics; and when freely used at the season of mellow ripeness, they prevent debility, indigestion, and avert, without doubt, many of the "ills which flesh is heir to." The operators of Cornwall, England, consider ripe apples usefully as nourishing as bread, and far more so than potatoes. In the year of 1801—which was a year of much scarcity—apples, instead of being converted into cider, were sold to the poor, and the laborers asserted that they could "stand their work" on baked apples without meat; whereas a potato diet required either meat or some other substantial nutriment. The French and Germans use apples extensively, as do the inhabitants of all European nations. The laborers depend upon them as an article of food, and frequently make a dinner of sliced apples and bread. There is no fruit cooked in as many different ways in our country as apples; nor is there any fruit whose value, as an article of nutriment, is as great, and so little appreciated.—*Water-Cure Journal*.

Riddance of Cats Without Killing Them.

In cities and villages nearly everybody has trouble with cats. They catch more chickens than rats, rob bird's nests and kill the birds, scratch up the flower beds and run through the vines, besides crying murder all night to the great annoyance of the people. Many families have pet cats, and it is not clever to kill them although they are a great nuisance. A friend of ours has invented a way to get rid of these pests which may be of use for some of our readers to know. Take a large box, open on the bottom, and put slats on the top so that you can see the fun after the performance commences. Set a figure four (trigger—4) baited with meat under one end of the box at the place where the cats frequent. When you catch one, light a pack of fire crackers and put them through the slats into the box with the cat; and if you want to see some grand lofty tumbling look in. Raise the box and let the cat go before all the crackers have exploded. And if you want to keep the time that cat makes have your watch in your hand and look quick; about all that you can see is the very large tail they will have as they leave, flying. One application for each cat, or for each batch, if you care to keep them, until you have several, will be sufficient for the season, and the neighbors will not be troubled with their cats running away from home for quite a while.—*New Albany Ledger*.

Corn Husk Baskets.

The materials are pasteboard, corn husks and silk or flannel of some high color. Cut out the sides six inches at the top, five at the bottom and one and a half wide; cut two more for the ends, four inches at the top, three inches at the bottom and one and a half wide; cut out the bottom five by three inches; cut a strip three-fourths of an inch wide and nine long for a handle. Then cut the lining of silk or some material not attractive to moths. The bottom and sides may be cut in one piece, care being taken to allow for seams at the ends and corners and also at the top to turn down under the husks on the outside. The end pieces must be cut separately and joined to the other. Sew all the pieces of pasteboard together, letting the handle have three quarters of an inch hold. Cut pieces of corn husk three-eighths of an inch wide and one and three quarters of an inch long; cross the ends; sew firmly to the pasteboard (beginning at the top) so as to make the points thus formed stand outward. When the whole is covered, fasten the lining by tacking here and there with silk of the same color. This makes a pretty note or card receiver for the center table.

MAKING STARCH.—The following is said to be a good receipt for making good, cheap and lustrous starch. It is prepared as follows: Into six pounds of cold water one pound of the best quality of wheat flour is stirred, when well mixed one ounce of aqua ammonia is added, while the mass is at the same time kept in motion. The flour swells considerably, and assumes a pale yellow color. Five pounds of cold water are then added, and the whole heated and boiled together for a quarter of an hour, by which means the surplus of ammonia is expelled. The paste thus obtained is semi-transparent, and fit for use. It gives a fine gloss not only to woven fabrics, but to paper, etc. It is very serviceable for purposes of the laundry, since it stiffens well, and quickly produces the desired gloss.

BAKED POTATOES.—Potatoes are more nutritious baked than they are cooked in any other manner; and they relish better with those who have not been accustomed to eat them without seasoning. Wash them as quickly as possible without burning in the least. As soon as they are done, press each potato in a cloth so as to crack the skin and allow the steam to escape. If this is omitted, the best potatoes will not be mealy. They should be brought immediately to the table, as they will soon become solid and lose their flavor.

CARE OF FRUIT.—The Western *Rural* argues the necessity of using great caution to prevent fruit intended for long keeping from being bruised. When placing winter fruit in bins, boxes, etc., it should be carefully handled, and all bruised and inferior specimens picked out from the choice fruit. Winter fruits of every kind should be entirely free from moisture.

FOUR SEASONS.—Mustard, salt, pepper and vinegar.

Domestic Receipts.

BARLEY PUDDING.—Prepare a half pound of pearl barley, one quart of new milk, and six ounces of sugar. Put the barley in fresh water and let steep twelve hours; pour the water from it, add the milk, sugar, and a small salt-spoon of salt, and bake it in a slow oven. If a richer pudding be required, take it out of the oven when nearly done, stir in two ounces of butter, four well beaten eggs, a little almond flavor, or any other seasoning; return it to the oven in a buttered dish, and bake it one hour.

BARLEY SOUP.—Three ounces of barley, one and a half ounces of stale bread crumbs, one ounce of butter, quarter of an ounce of chopped parsley, and half an ounce of salt. Wash, and steep the barley for twelve hours in half a pint of water, to which a piece of soda the size of a pea has been added; pour off the water that is not absorbed; add the bread crumbs, three quarts of boiling water, and the salt; boil slowly in a well-tinned covered pan for four or five hours, and add the parsley and butter about half an hour before the soup is ready to be served.

BIRDS' NEST PUDDING.—Peel and core with a scoop enough apples to cover the bottom of your dish; fill the holes of the apples with sugar, and sprinkle one ounce over them; add a quarter of a pound of sago, a little lemon peel and nutmeg; cover the whole with water, and bake it in a quick oven for about an hour. Eat hot, let it stand five minutes after being taken out of the oven. It is very nice, cold.

BOILED ARROWROOT PUDDING.—Take two ounces of arrowroot, one pint of milk, and two eggs. Set the milk on the fire; take out a few spoonfuls, and mix with the arrowroot; when the milk is nearly boiling, pour it gently upon the arrowroot, stirring it all the time; return it into the pan, and set it on a moderate fire, stirring it well for a few minutes, till it thickens; when nearly cold add the eggs, well beaten, and a little salt; boil it an hour in a buttered basin, and serve with or without butter sauce and currant jelly.

TO MAKE SHERBET.—To six lemons and eight sweet oranges sliced, and the seed removed, put one gallon of water, and sweeten to taste. Freeze, or use ice.

Mechanical Hints.

GOLDEN COLOR TO BRASS.—A mixture of muriatic acid and alum dissolved in water, imparts a golden color to brass articles that are steeped in it for a few minutes.

HARD CEMENT.—A foreign journal says that a French mason, in repairing the stone steps leading into a garden, used Portland cement mixed with finely divided filings and borings of cast and wrought iron, instead of sand; and that the mass has become so hard that it cannot be broken either with hammer or pickaxe.

DURABILITY OF DIFFERENT WOODS.—Experiments have lately been made by driving sticks, made of different woods, each 2 feet long and 1½ inch square, into the ground, only ½ inch projecting outward. It was found that in five years, all those made of oak, elm, ash, fir, soft mahogany, and nearly every variety of pine, were totally rotten. Larch, hard pine, and teak-wood were decayed on the outside only; while acacia, with the exception of being also slightly attacked on the exterior, was otherwise sound. Hard mahogany and Cedar of Lebanon were found in tolerably good condition. But only Virginia cedar was found as good as when put in the ground. This is of some importance to builders, showing what woods should be avoided, and what others used by preference in underground work.

ROPES OF HEMP, HIDE, WIRE, ETC.—When your rope has to run over large pulleys, use wire rope; but if the pulleys are small, wire rope cannot long stand continual bending over curves of a short radius, and gives out; in this case use rope of strips of rawhide, which during the last two years have appeared in the market; they are nearly as strong as wire rope, and about as lasting. Or you may use catgut; or, rather, gut rope, as the heavy kinds are obtained from other animals; the latter however, can only be obtained of certain definite lengths, while hemp, wire and rawhide rope can be had of any length. In regard to the price where good half-inch hemp rope costs about two cents per foot at retail, rawhide rope will cost 15 cents, wire rope, 20 cents, gut rope, 75 cents per foot or thereabouts.

LIFE THOUGHTS.

BAD as the world is, respect is paid to virtue.

RELIGION converts despair, which destroys, into resignation, which submits.

WHEN the pale of ceremony is broken, rudeness and insult soon enter the breach.

The enthusiasm of a man of genius appears to the multitude like madness.

It is not the station we fill which is of importance, so much as the light we send forth from us.

The man who gives children habits of truth, industry, and frugality, provides for them better than by giving them a fortune.

NARROW minds will judge you by fractions and infinitesimals; but a large mind will balance your actions and your speech.

KEEP out of debt, out of quarrels, out of damp clothes, out of reach of the cup that inebriates, out of thin clothes, and out of doors all that you can in good weather.

The chief secret in comfort, lies in not suffering trifles to vex one, and in prudently cultivating an undergrowth of small pleasures, since very few great ones are let on long leases.

If we were only half as lenient to the living as we are to the memory of the dead, how much happiness might we render them, and how much remorse might be spared when the grave closes over them.

As when the sea-worm makes a hole in the shell of the pearl-oyster the hole is filled up with a precious pearl, so when the heart is pained by an injury, forgiveness is the precious pearl that heals and fills the wound.

Elements of Success.

"The struggles of a life to achieve some great victory, are like the efforts of the traveler to reach the summit of one of the mountains of Switzerland, in the face of a raging storm. To turn back toward the monotonous plain would be defeat and disgrace, to remain where he is, without shelter is certain death; and to advance a single step seems to defy and mock at Heaven. Yet he is impelled to go forward; for, at the summit, he knows that the shepherd of St Bernard will welcome him and afford him shelter; but the rugged path becomes obscured, and the faithful guide bewildered and at length he is ready to lie down and die, when in the dim distance he sees through the blinding snow the faint light of the good shepherd, and with one desperate, almost hopeless effort, he reaches the threshold and is safe. During the calm night that succeeds, the northern streamers shoot in every direction across the sky, flecking the serene heavens with their spangled pennants of gold and orange and fleecy white; and when the sun of the morning floods the mountain peaks and spreads the gorgeous, limitless panorama, he feels, as he never felt before, that the mountain height of victory is infinitely more glorious for the trials and dangers of the rugged ascent."

FIFTEEN GREAT MISTAKES.—It is a great mistake to set up our standard of right and wrong, and judge people accordingly. It is a great mistake to measure the enjoyment of others by our own; to expect uniformity of opinion in this world; to look for judgment and experience in youth; to endeavor to mould all dispositions alike; not to yield in immaterial trifles; to look for perfection in our own actions; to worry ourselves and others with what cannot be remedied; not to alleviate all that needs alleviation, as far as lies in our power; not to make allowances for the infirmities of others; to consider everything impossible which we can not perform; to believe only what our finite minds can grasp; to expect to be able to understand everything.

CHILDHOOD is like a mirror, catching and reflecting images all around it. An impious or profane thought uttered by a parent's lips may operate on a young heart like a careless spray of water thrown upon a polished steel, staining it with rust, which no after-scouring can efface.

DON'T BORROW TROUBLE.—When Cæsar was advised by his friends to be more cautious of the security of his person, and not to walk among the people without arms or any one to defend him, he always replied to these admonitions, "He that lives in fear of death, every moment feels its tortures; I will die but once."

Railroad Items.

CALIFORNIA has, at this time, 902½ miles of railroad in active operation, as follows: Main Central Pacific Road (to State line), 293; California and Oregon branch of same (Roseville Junction to Red Bluff), 115 miles; San Joaquin Valley branch of same (Lathrop to Bear Creek), 58 miles; Southern Pacific (to Hollister) 100 miles; Watsonville branch of same, 20 miles; California Pacific (Vallejo to Marysville), 95; Napa Valley, branch of same, to Calistoga, 33; North Pacific (Donahue to Healdsburg), 42; Sacramento Valley road, 48; California Northern (Marysville to Oroville), 26; San Pedro and Los Angeles, 21; Stockton and Copperopolis Road to Milton, 48; San Rafael and San Quentin, 3½. It is believed that the new Central railroad route from Denver to Salt Lake, along the South Platte to Middle Park, and thence westward, will be shorter than the present route, by 200 miles.

It is announced that the San Joaquin Valley railroad will be completed to a point 20 miles south of Visalia, by next July.

RAILROAD matters are lively in Sonoma county. The lengths of the different lines projected are as follows: From Donahue to Russian River, 35½ miles; from there to Cloverdale, 17½ miles; from the Junction to Bloomfield, 13 miles.

The branch line of the Southern Pacific railroad, extending into the Pajaro Valley, has been opened for passengers and freight.

The grading on the railroad between Banta's and Oakland is progressing rapidly. It is expected that the work upon the portion of the line from Banta's to Martinez will be completed by the first of February.

A narrow-gauge railroad, from San Francisco to the Colorado River, via Santa Cruz and Watsonville, is talked of.

The surveys on the San Diego and San Bernardino railroad have been commenced, and active operations will begin in immediately.

Work upon the western end of the Northern Pacific railroad is progressing rapidly in Washington Territory. The first 20 miles from Kalama is about completed, and contracts are advertised for the next 30 miles.

The Walla Walla and Columbia River railroad company have gone to work in good earnest, to complete the project of a railroad from Walla Walla to Wallula. A new route is being surveyed by which many bridges and difficult places are avoided.

The proposed railroad from Portland, via Boise City, Idaho, to a point on the Union Pacific, near Salt Lake, is engaging considerable attention in Oregon, and an effort will be made to carry out the enterprise immediately.

The Northern Pacific have found a fine route for their road through the Yellowstone country.

The surveying party running a line to connect the Colorado Central with the Union Pacific, have reached Greeley, locating the line a little north of that town.

Work on the three-foot extension of the Colorado Central, up the Clear Creek Cañon is progressing. A considerable section is graded 12 miles up the cañon.

ARRANGEMENTS have been completed for the extension of the Denver and Rio Grande railroad to the Arkansas river.

At the latest dates, the Texas Pacific Company was applying to the Texas Legislature for permission to use the narrow-gauge.

The Missouri, Kansas and Texas railroad is contracted to be built through the Indian Territory to Red River.

THE INFLUENCE OF BEES IN DISTRIBUTING POLLEN.—A singular experiment has been made in England by Darwin, the naturalist, to ascertain what influence bees have in distributing the pollen of flowers. One hundred stalks of white clover were planted and bees allowed access to them, and the result was that 2,290 seeds were produced by the plants. Twenty other stalks were set out in the same locality and subjected to the same treatment, except that they were protected from the bees, and not a single productive seed was yielded. One thousand stalks of red clover were set out from which bees were allowed to gather honey, and they yielded 2,700 seeds, while from the same number, which bees were not allowed to approach, no productive seeds were gathered.

IMPORTANT TO WINE PRODUCERS.—Recent experiments made in Germany have shown, that in shipping red wines to foreign countries, on the passage to which they will be subjected to the intense heat of the tropics, a proportion of tannic acid made from the seed of grapes and added to the wine has the effect of preserving its quality and giving it a clear and beautiful color.

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One of the most important of the industrial enterprises which have been started in the State recently, is that of

The California Silk Manufacturing Co.

Their mill is located in South San Francisco, and the office and salesroom are at 569 Market street. Messrs. Brown & Peabody are the agents of the company, which is a joint stock concern, and has been in operation but a few months. The machinery at the manufactory is capable of turning out \$3,000 worth of silk per week, but at present it is only worked to a capacity of \$5,000 a month. Fifty hands are employed, forty of whom are young girls, the others being skilled workmen. Some of the girls have shown a remarkable aptitude in mastering the details of the business, and with a little more experience may be ranked as first class hands. Mr. James Leigh, the superintendent, has had many years experience in silk manufacturing, both in England and the Eastern States; and the machinery used in the establishment consists of the latest improved kinds. The silk used is from China and Japan, as well as California production. The company have used all the California silk they could procure, and have found it superior to the best Chinese and Japanese articles. They report the climate in this State well adapted to silk growing, and the California article is used by them, in making the finest grades of tram and organzine.

The great trouble California farmers have to contend with is, the difficulty of reeling silk from the cocoons; and we were informed that machines for reeling silk, if manufactured here, would have a ready sale, and be a great advantage to the silk growers. The silk manufactured at this establishment is a very fine article, meets with a ready sale, and has so far given satisfaction wherever used. All varieties of thrown silk are made, and the color of any sample can be matched in a few days in the dye house. Raw silk is at present worth from six to eight dollars per pound, according to quality. The starting of this enterprise has led to the establishment of a ribbon-weaving factory in this city; and other industries of a like nature would no doubt spring up, if a sufficient amount of silk was manufactured.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, THURS., A. M., Dec. 21.

FLOUR—The market continues quiet the demand being mostly for local trade. Sales reported embrace 4,500 bbls. Cal. extra, 3,000 do. Cal. superfine, and 3,000 Oregon extra. We quote prices as follows:

Superfine, \$6.00@6.25; extra, in sacks, of 196 lbs. \$7.12½@7.25. Standard Oregon brands, extra may be quoted at \$7.25.

WHEAT—In limited demand, chiefly confined to millers at a decline in prices owing to the favorable prospects for next crop. Sales aggregate 5,050 sacks fair to choice at \$2.35@2.50 per 100 lbs. Quotable at close at \$2.25@2.40 per 100 lbs.

The latest Liverpool market quotation comes through at 12s. 6d. per cental, a decline of 2d.

BARLEY—Has been very quiet during the past week, at a decline in prices. Sales embrace 5,000 sacks ordinary Coast to choice Bay, at \$1.80@1.95, which is the range at close.

OATS—Market has been inactive during the week under review, and prices are showing a decline. Sales 3,000 sacks ordinary coast to choice bay, at \$1.77½@1.95. Quotable at close at \$1.75 and 1.90 per 100 lbs.

CORN—Is quotable at 2.15@2.20 for yellow and white respectively per 100 lbs.

CORNMEAL—Is quotable at \$2.75@3.25 from the mill.

BUCKWHEAT—Quotable at \$2.50.

RYE—According to quality is quotable at \$2.37½@2.40.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Selling at \$32.50 per ton from the mill.

MIDDLINGS—For feed, are selling at \$42.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Receipts have been light, and prices at close are \$18@24 for fair to choice per ton.

HONEY—We quote Los Angeles comb at 12½@15c. Potter's in 2-lb cans, \$4 per doz.

BEESWAX—In good demand at 37½@40c per lb.

POTATOES—The storm has caused arrivals to cease, and stopped business for the past few days. We quote Bodega, 75c; Humboldt 85c@95c, other kinds 70c@95c.

SWEET POTATOES—Are selling at \$2.00@2.25 per 100 lbs.

HOPS—The range is 40@60c.

HIDES—During past week 1,420 Cal. dry sold at 18@19 and 1,260 salted at 8@9½c.

WOOL—The business in this article for the week has been dull owing probably, to the storm; but sales of 250,000 lbs. are reported at current rates. Prices for good to choice shipping grades are 22@26c. Burry and dirty as usual neglected and prices more or less nominal.

TALLOW—Market quiet at 9@9½c per lb.

SEEDS—Flax 3c; Canary, 5@7c; Alfalfa, 15@18c; Mustard—California Brown, 3@6c; Cal. White 3½@4½c per lb.

PROVISIONS—California Bacon 14@14½c; Oregon, 15@15½c; Eastern do. 13½@14c; for clear and 14@15 for sugar-cured Breakfast; Cal. Hams 14@14½c; Oregon, 15½@16c; California Sugar-cured Hams, 17@18c; Oregon do. 17@18c; Eastern do. 19@21c; California Smoked Beef, 12@14c.

BEANS—Market continues fair. The following are jobbing rates: Pea \$3@3.50; small White \$2.75@3.00; small Butter \$2.50@2.75; Pink \$3; Bayo, \$3.25@3.50; Navy \$3.50 per 100 lbs.

ONIONS—We quote the range from fair to choice at 60@90c per 100 lbs.

NUTS—California Almonds, 8@10c. for hard and 18@25 for soft shell; Peanuts, 5@7c; Pecan, 25c per lb Walnuts, new, 12c; Hickory, 12c; Brazil, 16c; Chili Walnuts 12c; Eastern Chestnuts 15@25; Cocoanuts \$7@8 per 100.

COFFEE—Costa Rica 2½c; Guatemala 20c; Java 25½c; Manilla, 19½c; Rio 19½@20.

Ground Coffee in cases 30c.

SPICES—Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Whole

Pepper 19c. Ground Spices—Allspice \$1.00 per doz.; Cassia \$1.50; Cloves \$1.12½; Mustard \$1.50; Ginger and Pepper, each \$1.00 per doz.; Mace \$1.50 per lb.; Ginger 15c per lb.

FRESH MEAT—Considerable advance has taken place in all descriptions. We quote slaughterer's rates as follows:—

BEEF—American, 1st quality, 10@12½c per lb. do. 2d quality 9@10c per lb.; do. 3d do. 7@8c.

VEAL—Quotable at 9@9½c.

MUTTON—8@10c per lb.

LAMB—None in market.

PORK—Undressed grain-fed is quotable at 5½@6½c. dressed, grain-fed, 8½@8¾c.

POULTRY—Live Turkeys, 20@21c per lb, dressed, 22@25c; Hens and large Roosters, \$8.00@8.50; Spring Chickens, \$6.00@7.00; Ducks, tame, \$8.00@8.50 per doz.; Geese, \$15@16.50 per dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87½; English Snipe, \$1.75@2.00; Mallard Ducks, \$3.00@3.50; Small Ducks, \$1.50; Wild Geese per doz. \$1.50@3.00; Venison per lb., 6@8c; Terrapin per doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@50c;

California firkin butter, 27½@33c. Pickled 30@35. Eastern firkin 20@32½c.

CHEESE—California 15@19c, Eastern, 16@17c. Eggs—California fresh, 55@60c. per doz.

LARD—California 13@14 Oregon in bbls. and kegs 12½@13c; Eastern in cases 14½@15 do in tcs. 12½@13.

FRUIT.

| | |
|--------------------------------------|-----------------|
| Tahitian and Mexican Oranges..... | \$25 00 @ 35 00 |
| Limes, per 1,000..... | 8 00 @ 10 00 |
| Australian Lemons, per 100..... | 4 00 @ — |
| Sicily do per box..... | 10 00 @ 12 00 |
| California do, per box..... | 2 50 @ 3 00 |
| Bananas, per bunch..... | 1 00 @ 2 50 |
| Apples, eating, per box..... | 75 @ 1 50 |
| do cooking do..... | 75 @ 1 25 |
| Pears, cooking..... | 50 @ 1 00 |
| do eating..... | 1 00 @ 1 50 |
| Quinces, per box..... | 1 25 @ 1 50 |
| Grapes, Mission per lb..... | 3 @ 5 |
| Rose of Peru do, per lb..... | 3 @ 5 |
| Black Hamburg, do, per lb..... | 3 @ 5 |
| Muscad of Alexandria do, per lb..... | 5 @ 10 |
| Flame Tokay do, per lb..... | 5 @ 8 |
| Black Morocco do, per lb..... | 8 @ 10 |
| Eastern Cranberries per bbl..... | 15 00 @ 16 00 |

DRIED FRUIT.

| | |
|-------------------------|---------|
| Apples, per lb..... | 6 @ 7 |
| Pears per lb..... | 8 @ 10 |
| Peaches, per lb..... | 8 @ 9 |
| Apricots, per lb..... | 8 @ 8½ |
| Plums, per lb..... | 6 @ 8 |
| Pitted do, per lb..... | 18 @ 20 |
| Raisins per lb..... | 10 @ 15 |
| Black Figs, per lb..... | 8 @ 12½ |
| White do..... | 15 @ 20 |

VEGETABLES.

| | |
|--------------------------------|--------------|
| Cabbage, per lb..... | 1½ @ 1½ |
| Garlic, per lb..... | 1 @ — |
| Tomatoes, per box..... | 1 50 @ 2 00 |
| Marrowfat Squash, per ton..... | 9 00 @ 10 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a good demand for seasonable articles under this head.

BUILDING AND FENCING MATERIALS—The local trade has been fair, and only moderate demand for export. Dealers pay for cargoes of Oregon as follows: Rough \$16; do dressed \$28; Spruce \$17@18. Redwood Lumber Association's prices are as follows:

| | |
|--|-------------------|
| Merchantable worked rustic..... | \$31 00 @ \$32 50 |
| Refuse do do..... | 20 00 @ 21 50 |
| Merchantable surfaced and rough clear..... | 28 00 @ 30 00 |
| Refuse surfaced and rough..... | 18 00 @ 20 00 |
| Merchantable beaded flooring..... | 28 00 @ 30 00 |
| Refuse do do..... | 18 00 @ 20 00 |
| Merchantable rough..... | 15 00 @ 16 00 |
| Refuse do do..... | 11 00 @ 12 00 |
| Fancy Pickets..... | 22 50 @ 25 00 |
| Rough Pickets..... | 15 00 @ 16 00 |

The mill price for cargo lots from Northern Ports is \$9.00@10 for timber, and \$17.50@20 for flooring.

BAGS AND BAGGING—There is no demand at present, and prices in consequence are largely nominal.

BOOTS AND SHOES—There has continued during the past week only a moderate demand for seasonable goods at unchanged rates.

FISH—There has continued a fair demand since our last weekly review. Sales of 100 bbls. Salmon, private. We quote Pacific Dry Cod in bbls at 5c, and in cases at 8@8½c; Salmon, in bbls, \$5.50@7.50, hf do, \$3.50@4.50; Case Salmon, \$2@3 per doz for 1@2-lb cans respectively; Pickled Cod, \$4.50 in hf bbls and \$8 in bbls; Pngst Sound Smoked Herring, 60@85c per box; Mackerel, hf bbls, new, per rail, \$12; do in kits, \$; extra mess do, \$5; No. 1, via Cape Horn, \$9@10 for hf bbls and \$2.50 for kits; Smoked Salmon, 7@7½c per lb.

NAILS—Quotable at \$5 50@7.75 for invoice lots ex ship.

PAPER—The demand continues fair for California Straw Wrapping, with the usual sales during the week at \$1.50 per ream.

PAINTS—Stocks remain in liberal supply and demand fair. We quote White Lead at 10@12½c; Whiting, 2c; Chalk 2½c per lb.

RICE—The market has remained steady during the past week. Sales of 1,000 mats China, in lots private. We quote China No. 1 at 8¼@8½c and No. 2 at 7@8c per lb; Siam, quotable at 7@7½c in mats; Carolina, 10c; Hawaiian Table, 9c per lb.

SUGAR—Market remains steady. We quote Cal. Cnbe at 14½c; Circle A Crushed, 14½c in bbls, and Granulated 14c; Yellow Coffee and Golden C, 12½@13c; Hawaiian, 8@12c as extremes per lb.

SYRUP—Market remains steady. We quote as follows: 82½c in bbls, 85 in hf bbls, and 90c in kegs.

SALT—There is a fair demand for California; otherwise market quiet. We quote California Bay at \$5@14; Carmen Island, in bnlk, \$13; Liverpool Coarse, \$18@20; do Stoved, \$22.50 per ton.

SOAP—Trade quiet at unchanged rates. Sales of 1,500 lbs Standard C. O., 100 gross do Washing Powders, 1,500 do McCormick & Co's C. O. and Pale and 1,500 do Winter, Manrer & Co's Globe, at manufacturer's rates. We quote local brands at 5@10c, and Castile at 11½@12½c per lb.

TEA—Market quiet. Sales of 75 pkgs Japan T.C. in diamond, and 50 chests Geo. Lee's China, on terms reserved. We quote Hyson at 60@75c; Gunpowder and Imperial, 95c@1.05; Young Hyson and Moyune, 90c@1.15; Foo Chow Oolong, 50@90c; Ponchong, 37½@45c; Sonchong, 50@75c; Japan 40@75c per lb.

EVERY MECHANIC should read and familiarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, \$1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

San Francisco Retail Market Rates.

| THURSDAY NOON, December 21, 1871. | | |
|-----------------------------------|-------|-------|
| MISCELLANEOUS. | | |
| Butter, Cal. fr. lb | 65 | @ 70 |
| Pickled, Cal. lb | 45 | @ 50 |
| do Oregon, lb | 45 | @ 50 |
| Honey, lb | 25 | @ 30 |
| Cheese, lb | 20 | @ 25 |
| Eggs, per doz | 100 | @ 110 |
| Lard, lb | 18 | @ 20 |
| Sugar, cr. 6 1/2 lb | 10 | @ 11 |
| Brown, do, lb | 10 | @ 11 |
| Beet, do, lb | 100 | @ 110 |
| Sugar, Map. lb | 25 | @ 30 |
| Plums, dried, lb | 15 | @ 20 |
| Peaches, dried, lb | 15 | @ 20 |
| Wool Sacks, new | 6 1/2 | @ 70 |
| Second-hand do | 6 1/2 | @ 70 |

| PRODUCE, ETC. | | |
|----------------------|----|------|
| Flour, ex. 50 lb | 25 | @ 30 |
| Superfine, do, 50 lb | 25 | @ 30 |
| Corn Meal, 100 lb | 30 | @ 35 |
| Wheat, 100 lbs | 20 | @ 25 |

| FRUITS, VEGETABLES, ETC. | | |
|--------------------------|-----|-------|
| Pine Apples, 50 lb | 20 | @ 25 |
| Bananas, lb | 3 | @ 5 |
| Cal. Walnuts, lb | 20 | @ 25 |
| Cranberries, lb | 75 | @ 100 |
| Cranberries, lb | 75 | @ 100 |
| Pears, table, lb | 75 | @ 100 |
| Plums, Cherry, lb | 6 | @ 8 |
| Strawberries, lb | 50 | @ 60 |
| Oranges, 100, 30 lb | 100 | @ 110 |
| Lemons, 100, 30 lb | 100 | @ 110 |
| Limes, per 100, 30 lb | 100 | @ 110 |
| Figs, dried, lb | 50 | @ 60 |
| Asparagus, wh. lb | 75 | @ 100 |
| Artichokes, doz | 50 | @ 60 |
| Brussels sprouts, lb | 20 | @ 25 |
| Beets, doz | 20 | @ 25 |
| Potatoes, lb | 2 | @ 3 |
| Potatoes, sweet, lb | 2 | @ 3 |
| Broccoli, doz | 50 | @ 60 |
| Cauliflower, doz | 50 | @ 60 |
| Cabbage, doz | 75 | @ 100 |
| Carrots, doz | 75 | @ 100 |
| Celery, doz | 75 | @ 100 |
| Cress, doz bun | 20 | @ 25 |
| Dried Herbs, h'b | 25 | @ 30 |

| POULTRY, GAME, FISH, MEATS, ETC. | | |
|----------------------------------|----|-------|
| Chickens, apiece | 75 | @ 80 |
| Turkeys, lb | 30 | @ 35 |
| Ducks, wild, lb | 50 | @ 60 |
| Tame, do, lb | 10 | @ 15 |
| Teal, doz | 10 | @ 15 |
| Geese, wild, pair | 75 | @ 100 |
| Tame, pair | 25 | @ 30 |
| From Chicago, lb | 75 | @ 100 |
| Hens, each | 75 | @ 100 |
| Snipe, doz | 10 | @ 15 |
| English, doz | 10 | @ 15 |
| Venison, lb | 12 | @ 15 |
| Quails, doz | 25 | @ 30 |
| Pigeons, doz | 10 | @ 15 |
| Wild, do, lb | 10 | @ 15 |
| Hares, each | 50 | @ 60 |
| Rabbits, tame, lb | 50 | @ 60 |
| Wild, do, lb | 75 | @ 100 |
| Squirrel, pair | 25 | @ 30 |
| Beef, tend, lb | 20 | @ 25 |
| Sirloin and rib, lb | 15 | @ 20 |
| Corned, lb | 10 | @ 15 |
| Smoked, lb | 15 | @ 20 |
| Pork, rib, etc, lb | 12 | @ 15 |
| Chops, do, lb | 12 | @ 15 |
| Veal, lb | 15 | @ 20 |
| Cutlet, do, lb | 15 | @ 20 |
| Mutton chops, lb | 12 | @ 15 |
| Leg, lb | 12 | @ 15 |
| Lamb, lb | 15 | @ 20 |
| Tongues, beef, ea | 18 | @ 20 |
| Tongues, pig, ea | 15 | @ 18 |
| Bacon, Cal., lb | 18 | @ 20 |

San Francisco Metal Market.

[Corrected weekly by Hooker & Co., 117 and 119 Cal. street.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

| THURSDAY, December 21, 1871. | | |
|---|--------|----------|
| Iron.—Duty: Pig, 57 lb ton | 100 | @ 110 |
| Sheet, polished, 36 lb | 100 | @ 110 |
| Plate, 1 1/2 lb | 100 | @ 110 |
| Pipe, 1 1/2 lb | 100 | @ 110 |
| Galvanized, 2 1/2 lb | 100 | @ 110 |
| Scotch and English Pig Iron, lb ton | 52 | @ 55 |
| White Pig, lb ton | 45 | @ 48 |
| Refined Bar, bad assortment, lb | 100 | @ 110 |
| Refined Bar, good assortment, lb | 100 | @ 110 |
| Boiler, No. 1 to 4 | 100 | @ 110 |
| Plate, No. 5 to 9 | 100 | @ 110 |
| Sheet, No. 10 to 13 | 100 | @ 110 |
| Sheet, No. 14 to 20 | 100 | @ 110 |
| Sheet, No. 21 to 24 | 100 | @ 110 |
| Horse Shoes | 7 | @ 9 |
| Nail Rod | 9 | @ 10 |
| Norway Iron | 7 1/2 | @ 8 |
| Roller Iron | 5 | @ 6 |
| Other Irons for Blacksmiths, Miners, etc | 5 | @ 6 |
| Copper.—Duty: Sheathing, 3 1/2 lb | 100 | @ 110 |
| Pig and Bar, 2 1/2 lb | 100 | @ 110 |
| Sheathing, lb | 24 | @ 26 |
| Sheathing, Yellow | 24 | @ 26 |
| Sheathing, Old Yellow | 11 | @ 11 1/2 |
| Composition Nails | 24 | @ 26 |
| Composition Bolts | 24 | @ 26 |
| TIN PLATES.—Duty: 25 lb cent. ad valorem. | 12 | @ 14 |
| Plates, Charcoal, 1X box | 10 | @ 12 |
| Plates, 1 C Charcoal | 10 | @ 12 |
| Roofing Plates | 11 | @ 12 |
| Banca Tin, Slabs, lb | 45 | @ 50 |
| STEELE.—English Cast, lb | 16 | @ 17 |
| Drill | 16 | @ 17 |
| Flat Bar | 17 | @ 20 |
| Plough Points | 3 | @ 7 |
| Russia (for mould boards) | 12 1/2 | @ 14 |
| QUICKSILVER.—lb | 55 | @ 60 |
| LEAD.—Pig, lb | 10 | @ 12 |
| Sheet | 10 | @ 12 |
| Pipe | 10 | @ 12 |
| BAR.—lb | 10 | @ 12 |
| ZINC.—Sheets, lb | 10 | @ 12 |
| BORAX.—Refined | 25 | @ 30 |
| Borax, crude | 5 | @ 6 |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SOLE LEATHER.—The demand is still equal to the supply, and prices still continue firm.

| | | |
|--|----|----------|
| City Tanned Leather, lb | 26 | @ 29 |
| Santa Cruz Leather, lb | 26 | @ 29 |
| Country Leather, lb | 25 | @ 28 |
| The market is well supplied with French stocks, and prices have a downward tendency. Heavy California skins are firm, with an upward tendency. | | |
| Jodot, 8 Kil, per doz | 80 | @ 90 |
| Jodot, 11 to 15 Kil, per doz | 75 | @ 85 |
| Jodot, second choice, 11 to 15 Kil, lb | 60 | @ 70 |
| Lemoine, 16 to 19 Kil, lb | 95 | @ 100 |
| Levin, 12 and 13 Kil, lb | 68 | @ 70 |
| Cornellian, 16 Kil, lb | 72 | @ 75 |
| Cornellian, 12 to 14 Kil, lb | 65 | @ 70 |
| Ogerau Cal, lb | 54 | @ 60 |
| Simon, 18 Kil, lb | 65 | @ 70 |
| Simon, 20 Kil, lb | 68 | @ 70 |
| Simon, 24 Kil, lb | 72 | @ 75 |
| Robert Cal, 7 and 8 Kil, lb | 35 | @ 40 |
| French Kips, lb | 1 | @ 1 1/2 |
| California Kid, lb | 65 | @ 70 |
| French Sheep, all colors, lb | 15 | @ 20 |
| Eastern Calf for Backs, lb | 1 | @ 1 1/2 |
| Sheep Roans for Topping, all colors, lb | 8 | @ 10 |
| Sheep Roans for Lining, lb | 5 | @ 6 |
| California Russet Sheep Lining, lb | 1 | @ 1 1/2 |
| Best Jodot Cal Boot Legs, lb pair | 5 | @ 6 |
| Good French Calf Boot Legs, lb pair | 4 | @ 5 |
| French Calf Boot Legs, lb pair | 4 | @ 5 |
| Harness Leather, lb | 30 | @ 37 1/2 |
| Fair Bridle Leather, lb | 48 | @ 50 |
| Skirting Leather, lb | 34 | @ 37 1/2 |
| Welt Leather, lb | 30 | @ 37 1/2 |
| Buff Leather, lb foot | 17 | @ 21 |
| Wax Side Leather, lb foot | 18 | @ 22 |

TRAVERS & WAGNER, 41 First St.—Mill Stones, Bolting Cloths and general Mill Furnishing. Portable Mills of all sizes from 16 to 36 in. None superior man'd for farmers & ranchmen.

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IN TOWN.—Mr. L. P. McCarty, traveling correspondent and agent for the PACIFIC RURAL PRESS and SCIENTIFIC MINING PRESS, has been in town for several days past, and will remain with us some time longer. "Mc" is well known all over the State as a pleasant gentleman and talented correspondent, just the one to attend to the interests of the above excellent journals.—Pajaronian, Sept. 28th.

THE PEOPLE'S PRACTICAL POULTRY BOOK.—A work on the Breeds, Breeding, Rearing and General Management of Poultry, by Wm. M. Lewis. Illustrated with over 100 Engravings. New York, 1871: Sold by DEWEY & Co., at this office, for \$1.75. Post paid, \$2.00.

UNIVERSITY OF CALIFORNIA.—The Preparatory Department is under the charge of five Professors of the University, and six tutors. Besides the studies of the public schools, Algebra, Geometry, Latin, Greek, German, French, Spanish and Book-keeping are taught. Terms: Board and tuition, 4 weeks, \$30. Students received at any time. GEORGE TAIT, Oakland, Master Fifth Class. se9bptf

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FACTS LITTLE KNOWN RELATIVE TO LIFE INSURANCE.

Losses Paid on the Pacific Coast under the Massachusetts Law by the NEW ENGLAND MUTUAL Life Insurance Company of Boston:
A. C. E. Miller, Portland, Oregon, Premium overdue six months at time of death, \$5,000.
J. W. Jones, Colusa, California, overdue four months at time of death, \$10,000.
J. B. Baldwin, Colusa, California, overdue three months at time of death, \$1,000.
G. L. Porter, Virginia City, Nevada, overdue ten days at time of death, \$2,500.
L. C. Peel, Walnut Creek, California, overdue eleven months at time of death, \$5,000.
J. H. Calden, Princeton, California, overdue four months at time of death, \$3,000.
J. Levison, Boise City, I. T., overdue two months at time of death, \$1,000.
C. W. Salter, Hor's Ranch, California, overdue two months at time of death, \$5,000.
C. O. Stevens, Danville, California, overdue one month at time of death, \$5,000.

THE NEW ENGLAND MUTUAL LIFE INSURANCE COMPANY

Was incorporated in 1835. It has accumulated assets of \$10,000,000.00.

This Company charges no more for Premiums on its insurance than those companies who have the unjust clause (pay promptly or forfeit) embodied in their policies.

WALLACE EVERSON, General Agent, Office, Northwest corner of California and Sansome Sts., San Francisco, Cal. 24v23-1m



THE CALIFORNIA Safety Gas Lamp.

This New Gas Lamp takes the place of the Candle, the Coal Oil Lamp and Coal Gas, and costs only One-Half Cent per Hour.

Any person who will take the trouble to examine this Lamp carefully, will see that it WILL NOT EX-PLORNE.

The flame is as white and brilliant as coal gas, and produces neither Smoke nor Smell. No CHIMNEY is Required.

It makes its own gas as fast as it is required, and when the light is blown out the gas ceases to be generated.

One Burner is Equal to Six Candles.

This Lamp burns Refined Petroleum, Gasoline, Danforth's Oil or Taylor's Safety Fluid. Oil expressly prepared for the Lamp furnished by the undersigned in quantities to suit.

WIESTER & CO., 17 New Montgomery street, Grand Hotel, S. F.

Dental Patent.

THE MOST VALUABLE IMPROVEMENT

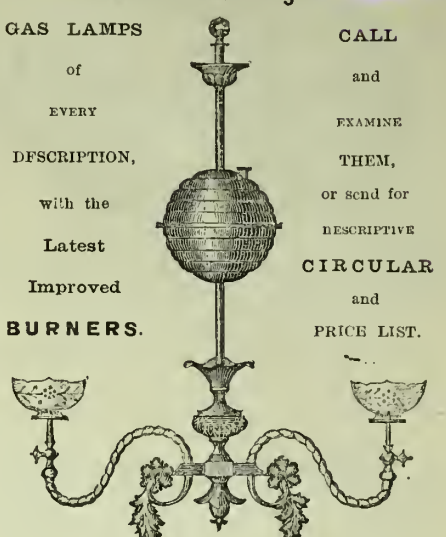
—IN— Dental Plates

That has been Made for Years.

WIESTER & CO., 17 New Montgomery st., S. F.

RIFLES, SHOT-GUNS, REVOLVERS, Gun Material. Write for Price List, to GREAT WESTERN GUN WORKS, Pittsburgh, Pa. Army Guns, Revolvers, Etc., bought or traded for. Agents Wanted. 6v2-6m

New Gas Light.



WIESTER & CO., 17 New Montgomery street, no25-sa (Grand Hotel), San Francisco.

WILLCOX & GIBBS IMPROVED NOISELESS Family Sewing Machine IS THE BEST IN THE MARKET.

It is the Most Simple, Easy to run (a child can operate it), not liable to get out of order, sews the heaviest or lightest goods, and is remarkable for the great variety, perfection and durability of its work.

It is the only Machine Making the triple-threaded seam, with the twisted loop stitch, the strongest and most elastic made.

The Willcox & Gibbs Received the only honorable mention and strong recommendation at the last Stockton-Agricultural Fair.

Its Work Received the First Premium At the San Francisco Mechanics' Institute Fair, 1871.

Don't Fail to Examine. PERFECT SATISFACTION GUARANTEED.

Other Machines taken in part payment. Call on or address

WILLCOX & GIBBS S. M. CO., 113 Post Street, S. F. 22v2-9m

MELON EXTRAORDINARY.

TURKISH MUSKMELON OR BACHIRI,

The first and only lot ever produced in America; raised by R. MARCHELLA, of Oroville, Cal., are now offered for sale in this market by the undersigned at the low price of \$1.00 each; forwarded to any part of the State by Express.

One Melon Contains from 100 to 500 Seeds, So that any farmer, for the price of a single Melon, can start a patch of his own. This is the BEST TASTED MELON IN THE WORLD, and will KEEP TWO YEARS.

For sale by GEO. HUGHES, No. 313 and 315 Washington street, San Francisco.

N. B.—The first 100 Seeds brought to this country cost \$50. de23-1m

SAN JOSE REAL ESTATE FOR SALE.

Farms from \$12 to \$100 per acre. Garden Land from \$100 to \$300 per acre. City Lots in San Jose or Santa Clara on easy terms. Well Improved Suburban Homesteads and Desirable City Property for sale by

J. A. CLAYTON, Real Estate Agent. Office on Santa Clara street, opposite Anzures House. Rents collected, Tax paid, and Money invested on first-class security. 20v2-3m

VICK'S FLORAL GUIDE FOR 1872.

dec2-5t ROCHESTER, N. Y.

HOP ROOTS FOR SALE.

I have a lot of Choice Hop Roots for sale at \$15 per thousand. The suckers, instead of being cut off from the stock, were covered with earth, thus promoting the growth of the "laterals," which are used for planting. I can also furnish healthy Lawton Blackberry Plants at \$8 per thousand. Orders may be addressed through DEWEY & Co., of the "Rural Press"; DRAKE & EMERSON, 521 Sansome st., San Francisco; W. R. STRONG, 8 and 10 J st., Sacramento; or direct to me, 25v2-3m CALVERT T. BIRD, San Jose, Cal.

Shell Your Corn.

The LITTLE GIANT shells four bushels of corn per hour, and costs only \$1.50. If you ever buy one, and it fails to give perfect satisfaction, you can get your money back by returning the Sheller. We would recommend lazy men and women not to buy it, for it is an enemy to both. Local or traveling agents will be supplied with Shellers at low prices, and given sole agencies to sell in their town or county.

WIESTER & CO., 17 New Montgomery street, San Francisco.



THE CALIFORNIA COTTON GROWERS' AND MANUFACTURERS' Association.

INCORPORATED APRIL 10, 1871, FOR TWENTY-FIVE YEARS.

Capital Stock \$500,000, in Shares of \$20 Each.

The Company's Plantation of 10,000 Acres is situated at and surrounding the town of Bakersfield, in Kern County. The Association has recently purchased of Messrs. Livermore & Chester, Real and Personal Property to the amount of \$200,000. The Company's stock, independently of the profits of raising Cotton and Manufacturing the same, is fully secured by Real Estate.

OFFICERS:

I. H. BONESTELL, San Francisco.....President.
JAMES D. JOHNSON, San Francisco.....Secretary.
JULIUS CHESTER, Bakersfield, Kern County.....Vice President and Resident Director.
BANK OF CALIFORNIA.....Treasurer.
LEONIDAS E. PRATT, San Francisco.....Law Adviser.
23v2-1f

TREES AND PLANTS
By the 100, 1,000 or 100,000, both Wholesale and Retail, at the

Lowest Market Rates, at the CAPITAL NURSERIES, SACRAMENTO, Cal.

Send for Catalogue, Price List and printed directions:

ROBERT WILLIAMSON, Proprietor.

Office and Tree Depot at U street, between Fifteenth and Sixteenth streets, Sacramento, Cal. 22v2-1m

1871. 1871.

Farmers, Look to Your Interests.

GRASS, CLOVER AND FIELD SEEDS

On hand, in lots to suit, at lowest market rates. Genuine Alfalfa California grown, Red and White Clover, Timothy Seed (Oregon and Eastern grown), Genuine Norway Oats, Also, choice varieties Seed Potatoes, Peas, Beans, Cabbage, Onion and Melon Seeds. Address JOHN C. DALY, No. 25 Front street, Sacramento. P. O. Box, No. 519. 16v2-3m

H. K. CUMMINGS, 1858. J. M. MAXWELL, 1871.

HENRY K. CUMMINGS & CO.,

Wholesale Fruit and Produce Commission House,

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with those of the producer. 4v23-1y

10,000 Acres of Land,

Situated upon

GRAND ISLAND,

Twenty miles south of Sacramento,

FOR LEASE ON SHARES FOR ONE, TWO OR THREE YEARS.

The construction of the levee is now going ahead. This land CANNOT BE EXCELLED IN PRODUCTIONS.

Shipments can be made from any portion of the island by all classes of vessels.

Apply to G. D. ROBERTS, 401 California street, San Francisco.

Or to WM. GWYNN, Lime Merchant, Sacramento. 16v2-1f

H. M. BALCH,

432 Kearny St., S. E. corner of California st. (up stairs), SAN FRANCISCO.

Repairs and Tunes

ALL KINDS OF

MUSICAL INSTRUMENTS,

Either Brass, Reed or String.

Special attention given to PIANOS, ORGAN, or MELODEONS.

Mr. B is a practical workman of twenty-five years experience, and employs none but experienced workmen.

ORDERS from the country attended promptly. 8v23-3msa

WILCOX'S

IMPROVED STEAM WATER LIFTER, With neither Engine, Piston, or Plunger.

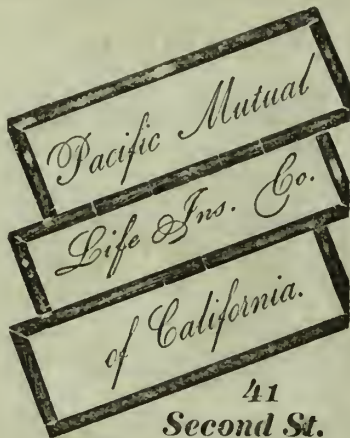
The most Simple, Durable, and in all respects the most ECONOMICAL of all Steam Pumps. Uses the same steam twice instead of once. Any person can run it. They are used on the Central and Western Pacific R. R. from Oakland to Ogden. They are used for Water Works, Mining, Irrigation, and all other ordinary pumping. Send for Descriptive Circular and Price List. Address ALLEN WILCOX, No. 21 Fremont street, San Francisco. 16v2-3m

FINE LIVERY.

Finest and Most Complete Livery Stable, together with the Best Turnouts in the State, are at WATSONVILLE, Cal. BILLINGS & ALEXANDER, Proprietors. P. S.—Their new Hotel will be in full blast within fifteen days from this date. oc21-3m*

Alderney Bull for Sale

by W. A. Z. Edwards, three miles north of San Jose, on the Alviso road, Santa Clara county, Cal. 15v2-3m



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President.

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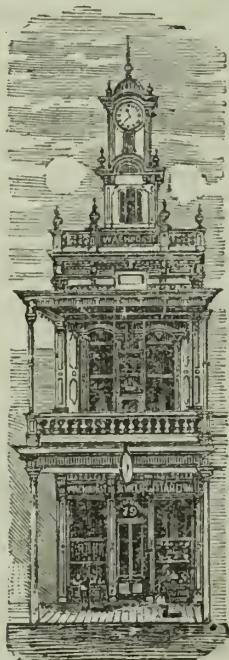
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General Agents, Home Office
v2 3m 137 Montgomery street, San Francisco.

WACHHORST'S TOWN CLOCK

JEWELRY STORE.

WATCHES AND DIAMONDS,
At 79 J street, between Third and Fourth, Sacramento.



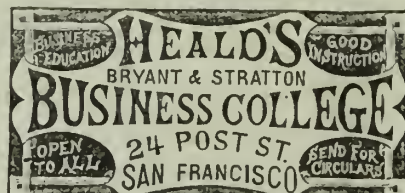
JEWELRY AND SILVERWARE,
At 79 J street, between Third and Fourth, Sacramento.

THE LARGEST AND FINEST STOCK OF GOODS AT THE VERY LOWEST PRICES.

Every article of Jewelry bought in this establishment WARRANTED strictly as represented.

Watches, Jewelry and Clocks Repaired BY THE BEST WORKMEN.

All orders from the country promptly attended to. 7v2-3m



THE ONLY THOROUGH BUSINESS COLLEGE ON the Coast. Its object is to impart a practical and useful education to persons of both sexes and of any age. Academic department for those not prepared for Business Course. Accommodations for 400 pupils. Students can commence at any time. For full particulars call at the College Office, 24 Post street, or address

E. P. HEALD, President Business College, San Francisco.

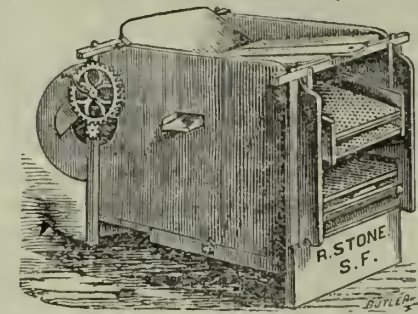
G. ERLIN, MANUFACTURER OF Office, School Furniture AND SEETTES.

And all kinds of Office and Cabinet Work to order. Office, No. 607 Clay street, near Montgomery, San Francisco. SILVER MEDAL awarded for the best California-made Office and School Furniture, at the Eighth Mechanics' Fair, 1871. 13v2-3m

CO-OPERATIVE MARBLE WORKS.

JOHN DANIEL & CO., Manufacturers of and Dealers in Monuments, Headstones, Tombs, MANTEL PIECES, ETC., 421 Pine street, between Montgomery and Kearny, SAN FRANCISCO. 21v2-1y

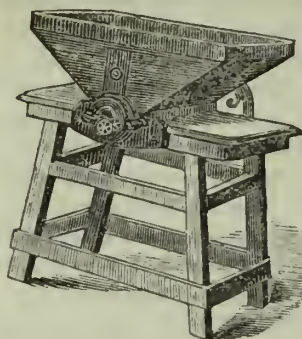
THE PATENT Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating Grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far exceeds anything that has been invented for the separation of Grain. It has been thoroughly tested on all the different kinds of mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to R. STONE, 25v1 3m 422 Battery street, San Francisco.

THE CELEBRATED CHALLENGE FEED MILL.



For Farm use and Custom work. The only Practical Farm Feed Mill ever invented. Can be used with from one to eight-horse power, and grinds from 250 lbs. to one ton of barley per hour. Price of Mills from \$75 to \$100, according to size. Adapted to Wind, Water, Steam, or Horse Power. The grinding surface is adjustable, and can be replaced in fifteen minutes at an expense of one dollar to one dollar and a quarter. Over 3,000 now in use. Every Mill warranted to give satisfaction. For sale by all leading agricultural firms on the coast. For further particulars send for circular.

With Hawley & Co., cor. California and Battery sts., 13v2-6m San Francisco.

SAVE \$42! WHY PAY \$80?

THE "HOME SHUTTLE" SEWING MACHINE, Price \$38.

This machine being as good as the best, we have no hesitation in recommending it to our friends as a superior machine for family use. We take pleasure in its exhibition, and invite all to call and examine it before purchasing elsewhere.

It has a straight needle and makes a Lock Stitch. Send for a circular. Agents wanted in every county. Each machine warranted for five years.

E. W. HAINES, Agent. 17 new Montgomery street, Under Grand Hotel, 16v2-3m San Francisco.

THE WORLD RENOWNED Howe Sewing Machines

are taking the lead. Daily manufacture, about 500 machines. I also have the agency for E. B. BURTRICK & Co.'s Celebrated PATTERNS for Ladies' Misses' and Children's garments. Send Postage Stamp for Illustrated Catalogue. H. A. DEMING, Ag't, de2-1m 113 Kearny st., S. F.

J. BREUNER & CO.,

Importers, Jobbers and Manufacturers of



FINE FURNITURE,

BEDDING, MIRRORS, ETC., AT THE

Very Lowest Prices.

Nos. 166, 168 and 170 K street.....SACRAMENTO. 16v2-3m

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PIANO FORTES,

—AND—

Mason & Hamlin's Cabinet Organs. L. K. HAMMER..... Agent. Also, Importer of Sheet Music, Music Books and Musical Instruments. Finest Violin and Guitar Strings. No. 230 J street, SACRAMENTO. 16v2-3m

HALLET, DAVIS & CO.'S CELEBRATED PIANOS.

WM. G. BADGER, Sole Agent for this Coast.

Second-hand Pianos taken in Exchange for New. Also, Sole Agent for Geo. Woods & Co.'s Parlor and Vestry Organs, the Finest in the World.

Warerooms, No. 7 Sansome street, S. F. de2-1m

J. ROSS BROWNE,

Office; No. 45 Montgomery Block, SAN FRANCISCO, CAL.

THE GREAT RETAIL DRUG HOUSE

OF THE PACIFIC COAST

JAMES G. STEELE & CO..

Chemists and Apothecaries.

Import and sell directly from Eastern and European Markets.

NO. 521 MONTGOMERY STREET,

San Francisco.

Manufacturers and Sole Proprietors of

STEELE'S GLYCERINE LOTION

—AND—

GRINDELLA LOTION,

For the Cure of Poison Oak.

21v2-3m



A Desirable Hiss.—There is the hiss of ridicule, the hiss of scorn, the hiss of snakes in the grass; but the most delightful hiss is that of

Tarrant's Effervescent Seltzer Aperient

In the sparkling goblet, giving assurance to the invalid that his thirst will be deliciously assuaged; that his stomach will be refreshed and purified; that if he is feverish, his body will be cooled by healthful evaporation; that if he is constipated, the difficulty will pass away without a pang; and that if the condition of his general health is impaired, it will be speedily restored, of course he will take care to procure none but the genuine.

SOLD BY ALL DRUGGISTS.



Phelps' Patent Animal Trap,



FOR GOPIERS, SQUIRRELS, RATS, CATS, and other "Varmints."

This Trap, as may be seen, is of simple construction and not likely to get out of order, and very durable.

It is Very Efficient

and can be used conveniently by women or children. THE CHEAPEST AND BEST YET INVENTED. Price 50 cents. By mail, prepaid (to places where express charges are high), \$1. A liberal discount to clubs or dealers who buy by the dozen. Address the inventor and manufacturer, D. N. PHELPS, al-ly-awbp San Leandro, Alameda County, Cal.

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Are hereby notified that

THE STANDARD SOAP COMPANY

Continue to manufacture the following Standard Preparations:

Detergent, Prize Medal and Laundry Soaps; Kane's Condensed Soaps; Thomas' Cool Water Bleaching Soaps; Standard and Eureka Washing Powders; Madame Balcar's Washing Fluid and Liquid Bluing; Adamantine Candles, and a general assortment of Family, Laundry, Fancy and Toilet Soaps.

Manufactory, 204 and 206 Sacramento street, San Francisco. 21v2-3m

FARMS AND STOCK RANGES.

On Government, State and Railroad Lands, IN NEVADA.

Having surveyed a large portion of the public domain in Northern Nevada, I am prepared to select, locate and obtain title for parties desiring to secure such lands, in quantities to suit, and on the most favorable terms.

Address or apply to A. J. HATCH, U. S. Deputy Surveyor, Reno, Nev. 22v2-3msa

R. IRELAND,

The old Pioneer Broom Factory—Established August, '56. No. 82 J street, between Third and Fourth, Sacramento. All kinds of

Wood and Willow Ware.

Manufacturer of Brooms, Brushes, Baskets, Matches and General House Furnishing Goods, and sells Nichols & Falvy's Tubbs and Pails. 16v2-3m

The Pacific Journal of Health

(Heretofore PACIFIC COAST JOURNAL) Will commence the year 1871 with Illustrated Cover and Additional Attractions.

Subscribe in time for Initial Number, Box 1501, San Francisco, de9-1m

HILL'S PATENT EUREKA GANG PLOW,



The undersigned, Manufacturers of "HILL'S PATENT EUREKA GANG PLOWS," take this method of calling the attention of Agriculturists throughout the Pacific States and Territories to the merits of the above named Plows, and offer the following reasons why they are entitled to preference over any other Plow in use.

They are made of the best material, and every Plow warranted.

They are of light draught, easily adapted to any depth, and are very easily handled.

They will plow any kind of soil, and leave the ground in perfect order.

FIRST PREMIUMS!

These Plows took the First Premium at the State Fair in Sacramento, in 1870; at the Northern District Fair in Marysville, 1870 and 1871; and at the Upper Sacramento Valley Fair, Chico, 1870 and 1871. At the Mechanics' Fair, held in San Francisco in 1871, a Silver Medal was awarded these Plows; and the State Agricultural Society, at the last Fair, offered a premium of \$40 for the best Gang Plow. The committee was composed of practical farmers from the agricultural counties, who, after a fair test and thorough competition with the leading plows of the State, awarded the premium to the Eureka Gang Plow. From this it will be seen that these celebrated plows still maintain their reputation over all competitors. Patented Sept. 7, 1869.

Champion Deep-Tilling Stubble Plow,

which took the First Premium over all competitors at the State Fair, 1871. It turns a furrow 14 inches deep and 24 inches wide.

This Gang Plow combines durability with cheapness, being made entirely of iron by experienced workmen, of the best material. Over three hundred are now in use, and all have given entire satisfaction.

Manufactured and for sale at the corner of Third street and Virgin Alley, Marysville, by

HILL & KNAUGH,

And also by most leading Agricultural Dealers in the State. All others are invited to apply at once for Circulars, prices, etc.

16v23-ff

MATTESON & WILLIAMSON'S

AMERICAN CHIEF



GANG PLOW.

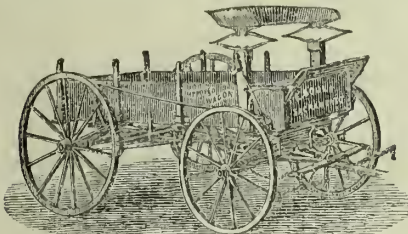
Took the Premium over all at the great Plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the Best and Most Desirable Gang Plow in the world. Send for circular to

MATTESON & WILLIAMSON,

Stockton, Cal.

14v2-3m



FIRST PREMIUM AWARDED at the State Fair of 1870; also First Premium at Mechanics' Fair, San Francisco, 1871; and Silver Medal and First Premium for best Farm Wagon, and First Premium for the best improved Thimble Skin at State Fair, 1871. Also State Fair GOLD MEDAL for 1871.

E. SOULE,

Corner Tenth and I streets,

ap22-3m

SACRAMENTO, CAL.

JACKSON MICHIGAN WAGONS.



The large sale of the above WAGONS has induced a number of persons to try and sell other Eastern-made Wagons, none of which have any proof that they will stand in this dry climate. JACKSON WAGONS have the highest certificate from use for ten to fourteen years, consequently the buyer runs no risk in purchasing the Jackson Wagons. All sizes for sale low by

J. D. ARTHUR & SON, San Francisco.

N. B.—Warranted for three years.

21v2-3m

W. R. STRONG,

Commission Merchant,

And Wholesale Dealer in every description of

SEEDS,

California and Tropical Fruits, Nuts, Honey, and Agricultural Produce,

Nos. 8 and 10 J Street, SACRAMENTO.

Orders for all classes of Merchandise filled and forwarded with dispatch.

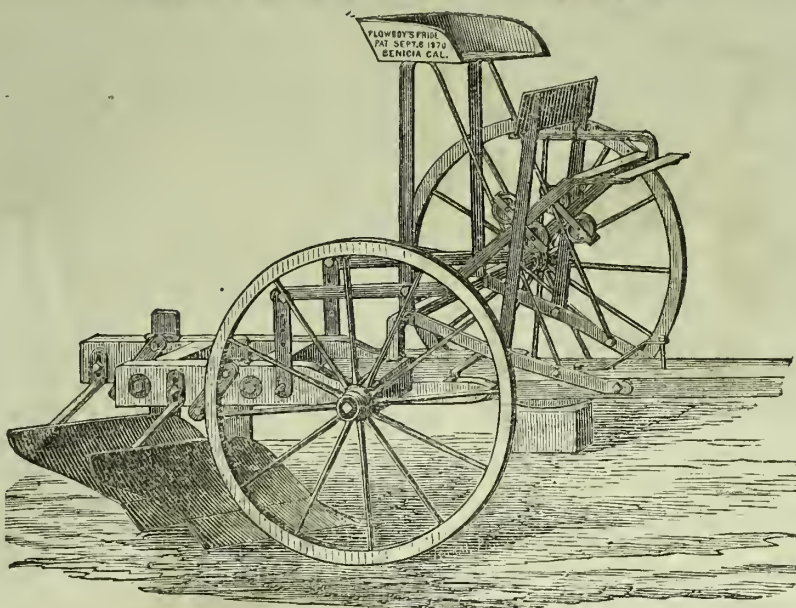
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SEED WHEAT.

THE CELEBRATED EXCELSIOR SEED WHEAT CLUB CHILE, AUSTRALIA & SONORA WHEAT, FOR SEED.

For sale in lots to suit by McNEAR & BRO., 15v2-3m 302 Davis street, San Francisco

THE PLOW BOY'S PRIDE.



Light, Strong and Durable—Cheap, Easily Handled and Runs Easy.

PATENTED SEPTEMBER 6, 1870.

Just the Thing for Farmers. The Plow Boy's Pride has been Thoroughly Tested,

in all kinds of soil, and on level, hilly and in tule lands, and in each instance has been pronounced a success

One of these Plows was run last season by a boy 14 years of age.

Examine it carefully and compare it with other plows. It will stand the test.

Reference is made to those who have used these Plows, among whom are the following: D. N. HASTINGS, Benicia; P. COCHRAN, Benicia; A. P. RYERSON, Solano county; FOREMAN & ROBERTS, Solano county; MAJORS & DORMAN, Contra Costa county. Manufactured and sold by

JAMES H. ANDREWS, Patentee,

BENICIA, CAL.,

who also manufactures single Plows of all sizes, for free or adobe so ils.

Circulars sent Free by Mail.

oc28-1am3m

BAKER & HAMILTON,

Sacramento and San Francisco,

—IMPORTERS OF—

HARDWARE,

Farming Implements,

Machines, Etc., Etc.

Gang Plows,

Single Steel Plows,

Iron Plows,

Harrows,

Cultivators,

Seed Sowers,

Grain Drills,

Etc. Etc.

18v2-3m

J. ROCK'S NURSERIES,

SAN JOSE.

Fruit and Ornamental Trees.



The attention of every Planter, Nurseryman and Dealer is called to our large and superior stock of



Fruit and Ornamental Trees,

Grape Vines and Small Fruits,

Shrubs and Plants, Etc., Etc.,

IN LARGE QUANTITIES, AT LOWEST RATES.

Catalogue furnished on application.

21v2-ff

JOHN ROCK, San Jose, Cal.

SWEET CHESTNUT TREES.

ONE-HALF MILLION, besides a large general Nursery Stock. A Sixteen-page Circular Free. Also a Trade List for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight or express. Address STORRS, HARRISON & CO., 1v2-6m Painesville, Lake Co., Ohio.

TREES

AND PLANTS FOR SALE AT THE
LIBERTY NURSERIES,

Petaluma, Cal.

The stock I offer for sale this season is as varied and complete as can be found at any Nursery on the Pacific Coast. It consists of

Apples, Pears, Plums, Peaches, Apricots, Nectarines, Figs, Quince, Cherries, Oranges, Pomgranates, Mulberries, Grapes, Currants, Gooseberries, Blackberries, Raspberries, Strawberries, etc.

Almonds, English Walnuts, California and Eastern Black Walnuts Butternuts, American, Japan and Spanish Chestnuts.

Locusts, Maples, Elms, Poplars and Willows.

Evergreen Trees and Shrubs in great variety.

Peciduous Flowering Shrubs in variety, including a choice collection of Roses.

Also a choice collection of Bedding and Conservatory Plants, selected from the best new varieties (importation of 1871).

For complete list send for Descriptive Catalogue. The above stock of Trees and Plants will be sold

At the Lowest Market Rates

of the reliable Nurserymen, and guaranteed to be true to name and label.

All orders from unknown persons must be accompanied with the Cash.

TREES packed in the best manner and delivered to Railroad or Boats in Petaluma for shipment to all parts.

Address

W. H. PEPPER,

21v2-3m

Petaluma, Cal.

Seed ! Seed ! Seed !

Wheat—Algiers, Australian, Sonora, Club Chile, Oregon.

Oats—Norway, Oregon, Surprise, Coast, Wild.

Peas—Canada, Windsor, Waco.

Buckwheat—Oregon, Chatfield, Humboldt Co.

Corn—Southern, Eastern.

Flax Seed—California, Oregon.

Potatoes—Early, of all kinds.

IN LOTS TO SUIT, BY

R. M. CHAMBERLIN & CO.,

N. E. Corner Clay and Davis streets, Produce Exchange Building, San Francisco.

Depot for the Pacific Oil Cake Meal. 19v2-3m

Orange Trees ! Orange Trees !!

I now offer to Planters and Dealers a large and splendid stock of ORANGE, LEMON, LIME, and ENGLISH WALNUT TREES. Also, a limited amount of

Grafted Orange on Lemon Stock.

At Lowest Market Rates. Address P. O. Box 265, Los Angeles, Cal.

13v2-6m

THOS. A. GAREY.

New Seeds and Plants.

Just received, a prime lot of NEW ALFALFA CLOVER SEED HYACINTH GLASSES, DUTCH BULBS, Etc. Always on hand a fine assortment of all kinds of SEEDS, BULBS, PLANTS, FRUIT TREES, at the Old Stand.

E. E. MOORE,

Importer of Seeds, Bulbs, Plants, Etc., 425 Washington street, San Francisco, Cal.

Send for a Catalogue.

16v2-ff

KELSEY'S NURSERIES.



OAKLAND.

Established in 1852.

CITY DEPOT,

317 Washington Street.....SAN FRANCISCO.

The Proprietor having upwards of

100 ACRES OF NURSERY GROUNDS,

well stocked with all the leading and best varieties of Fruit Trees and Fruit Bushes; also Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms and with dispatch.

Choice Roses and Pot Plants of every variety. Trees and Plants securely packed to travel any distance.

FOREST TREES

of Australia, Europe, China and Japan; in fact, we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty, in furnishing a place without being obliged to go from one Nursery to another.

W. F. KELSEY, Proprietor.

21v2-3m

New York Seed Warehouse,

C. L. KELLOGG,

427 Sansome Street, near Clay,

SAN FRANCISCO, CAL.,

Importer and Dealer in

Garden, Field, Fruit, Flower

AND TREE SEEDS,

Ramie Plants.

Pure Alfalfa, Mesquite Grass, Etc.

DUTCH BULBOUS ROOTS.

Imported Direct from the

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At \$8 per 100 lbs. All kinds of

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I have on hand and will be constantly receiving an

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To which I invite the attention of my customers and the public generally. Will also receive orders for

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And by **W. W. DRURY,** at RAMIE NURSERY,

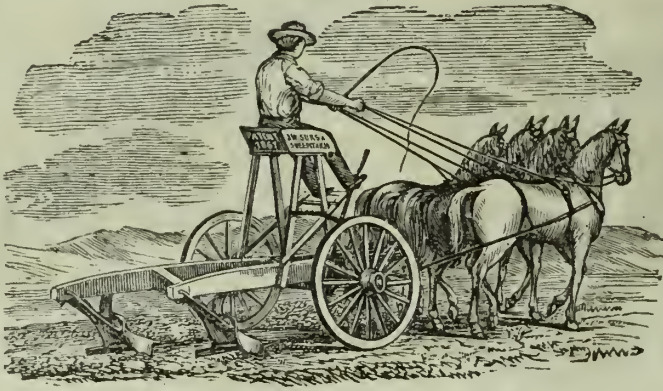
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21v2-3m

THE CELEBRATED CALIFORNIA SWEEPSTAKE GANG PLOW.

HUIE'S PATENT GANG PLOWS---PRICES REDUCED.

Cheapest and Best Gang in the U. S.



2,000 in use in California.

SWEEPSTAKE GANG PLOW.
Sursa's Patent.

The extraordinary sale of this Gang Plow during the past four seasons, is owing to its possessing so MANY IMPORTANT ADVANTAGES OVER ALL OTHER GANGS IN THE MARKET, among which are the following:

The remarkable simplicity of its construction renders it impossible for it to get out of order, and enables them to be built exceedingly strong and light.

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It will plow from one to ten inches deep, and ALWAYS retains a level position at any desired point. No other attempts this.

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The draft is very light, and a boy ten years old can plow as much as two men with single plows, and in a much superior manner.

Extra parts can be obtained at the factory, and are warranted to fit, as all are made from the same pattern.

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The SWEEPSTAKE GANG is the standard of merit by which all others judge their Gangs, and many use the name to sell their inferior article. The Sweepstake Gang is only manufactured by the "SWEEPSTAKE PLOW CO.", at San Leandro, and farmers should order direct of us, or see that they get the SWEEPSTAKE GANG, and not an imitation.

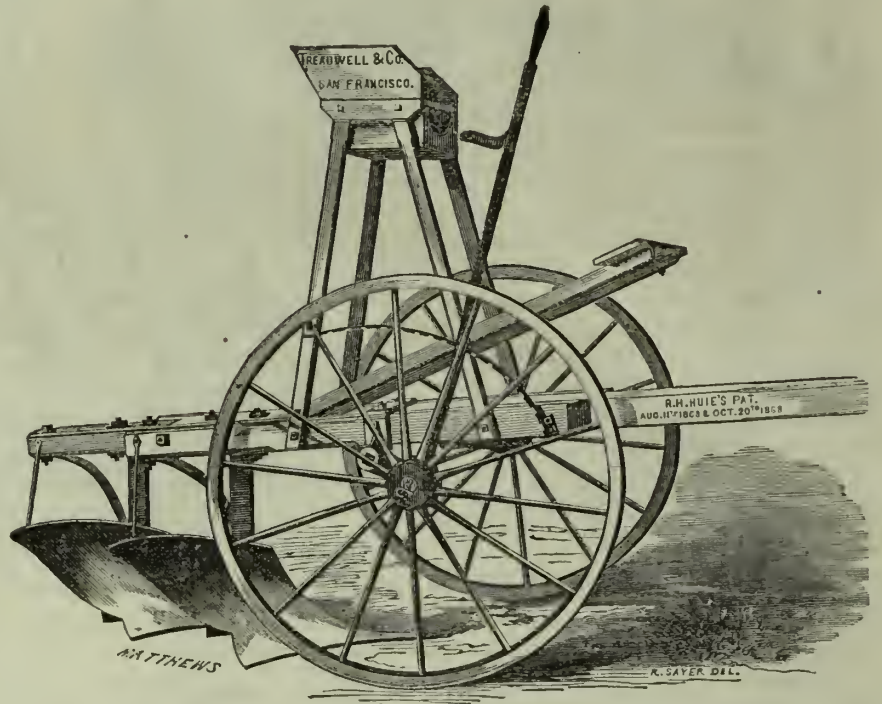
☞ No Gangs Sent on Commission. Orders Filled as Received.

PRICES at SAN LEANDRO: With two extra Points, \$75; with Collins' Moulds, Points and Lands (no extra points), \$85. TERMS CASH.

SWEEPSTAKE PLOW COMPANY, SAN LEANDRO.

OFFICE—13 to 19 Front street, San Francisco.

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Having purchased the Gang Plows imported by Treadwell & Co., at very low figures, we are enabled to offer them at greatly reduced prices—below the cost of importation—giving a Gang combining

Simplicity, Utility, Durability and Low Price.

They are selling very rapidly and we would advise early orders. This is the cheapest GOOD Gang offered. Being boxed, the transportation is low.

Price of Steel Gang, \$60. Price of Collins' Gang, \$75. Without Extra Shares.

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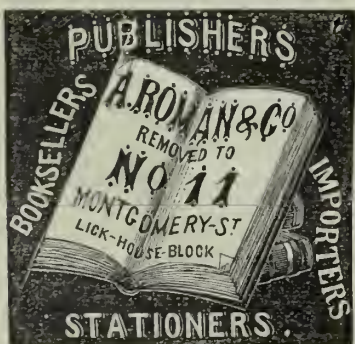
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The Simplest and Most Practicable now in use.

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PACIFIC RURAL PRESS

Volume II.]

SAN FRANCISCO, SATURDAY, DECEMBER 30, 1871.

[Number 26.]

DAIRYING IN CALIFORNIA.

Since no State in the Union, perhaps, contains a larger area of land suitable for dairying, and certainly none where the climate is better adapted to the business, than California, it is not a little remarkable that nearly one-half of all the butter and cheese we consume should be transported to us over the longest railroad in the world, and at the highest rate of freight anywhere known. Some claim that over one-half of the butter and cheese consumed here is thus imported; but the question is not how much, but why any amount whatever is thus obtained.

Very good dairy land can be had here at from \$5 to \$20 per acre, and convenient to transportation. Dairy cows can be raised and pastured here as cheap or cheaper than in the Atlantic states, and can be kept for less than half the cost there. Labor is very nearly as cheap as at the East and living much cheaper. Of course nothing need be said with regard to the superiority of the climate of California, where neither stable feed or shelter is used (although it might be used to advantage).

Singular it certainly must appear to visitors here, that with all these advantages in our favor, Eastern dairymen are growing rich on their cold, bleak, rocky farms, in making butter and cheese for the California market; and yet we are told that the few who have gone into business here, with intelligence and energy have made money at it—probably less failures having occurred in that business than in almost any other which could be named. We might give names and facts and figures; and at some future time perhaps we may do so, as there are about 1,000 dairies in the State, averaging from 30 to 300 cows each—a few being much larger.

Perhaps the greatest draw back is the uncertainty of the labor market in this State, and the disinclination of laborers to go out from the great centres of population to engage in *hard work*. Quite too large a proportion of our people are inclined to stick to the cities and towns to do *head work*. Single men are particularly so inclined, and when the cares of the family begin to press upon the married man, he is too often forced to forego a favorable opportunity to enter upon the dairy or some other good business in the country because his *helpmate*, cannot endure the isolation of California life in the country—where the latest style of a Parisian bonnet is never seen. What we want here is a few thousand active energetic young men with small capital who will take hold of "outside" enterprises with an energy and a will that takes no note of hard work, dull times or personal isolation; but who will rest perfectly satisfied with a legitimate and moderate reward of industry.

In this connection we introduce a perspective view and general plan of

A Cheese Dairy House.

The plan here shown consists of a building 1½ stories high, with a broad spreading

roof of 45° pitch. The ground plan is 10 feet high between joists, and the posts 16 high. An ice house may be placed at one end (if wished). A wood shed is placed at the other end.

The building is supposed to be erected near the milking sheds of the farm and in contiguity to the feeding troughs of the cows, or the piggery and adapted to the convenience of feeding.

Interior Arrangements.

The front door is protected by a light porch, *a*. Entering by a door, *b*, the main dairy room, the cheese presses *c*, *c*, occu-

below and pumped out as wanted. A cellar is convenient, indeed almost indispensable, under the cheese dairy, and water should be so near as to be easily pumped or drawn into the vats and kettles used in running up the curd or for washing the utensils used in the work.

When the milk is kept over night for the next morning's curd, temporary tables may be placed near the ice room to hold the pans or tubs in which it may be set and the ice used to temper the milk to a proper degree for raising the cream if the dairy be of such extent as to require larger

great improvement has been made at Troy in the *steel* designed for such work, which makes it about equal to black diamonds.

The cutting teeth are made equally sharp at both ends; and when one end dulls, the other is turned up in an instant. After a full test, the leading master mechanics of Pittsburg subscribed \$200,000 to erect works and manufacture these saws, under Emersou's supervision.

Already the stone factory is completed at Beaver Falls, Alleghany Co., Penn., and the works are being constructed. The invention has been disposed of in Great Britain to a very large marble house, which, after careful study of its merits became convinced that it would displace the present slow and costly method of dealing with marble and other quarry productions.

We are proud to claim Mr. Emerson as an old Californian. He is a brother of Professor Emerson of Oakland. J. S.

Blooded Stock.

There seems to be a healthy, growing inclination among our farmers generally, to improve their stock by gradually introducing better blood into their herds and flocks. This is a wise movement of the more successful and intelligent farmers in nearly every portion of the State—the lesson having been taught us by the experience of the East. The consequence will soon be observed—indeed, is already noticed—in the fact that improved stock is fast taking the place of the "scrubs" which have heretofore formed such a large proportion of the stock throughout the State.

To give an idea of the extent to which the introduction of such stock is being carried on, and the wide scope of country which is being benefitted thereby, we may call attention to a part of the transactions of Col. Saxe, who, though, perhaps the largest importer, is but one of many who are engaged in the business. He has recently sold two Chilton (white short-horn) heifers to R. W. Canfield, of San Juan, and has elsewhere, in localities unknown to us, disposed of his entire last summer's large importation of horned stock, with the exception of 8 American Herd Book (short-horns) Durham bulls. He has sold to Messrs. Miller & Lux, of this city, 11 head of his Kentucky Cotswolds for the gross sum of \$1,375. From his herd of Berkshire hogs he has sold as follows: In Monterey county, 12 at San Juan, 6 at Castroville, and 6 at Salinas; in Santa Cruz county, 6 at Santa Cruz, and 16 at Watsonville; in Sacramento county, 14 at Sacramento city; in Yuba county, 10 at Marysville; in Butte county, 42 at Chico; in Tehama county, 2 at Red Bluffs; in Sonoma county, 3 at Petaluma; in San Mateo county, 4 at Pescadero and 4 at Spanishtown; in San Luis Obispo county, 3 at San Luis Obispo.

THE STORM, which commenced a week ago, last Sunday night, has continued, with slight interruptions, to the present time, Thursday afternoon. The amount of fall in this city up to this time, has been over 14 inches for the present storm, and about 18½ for the season.

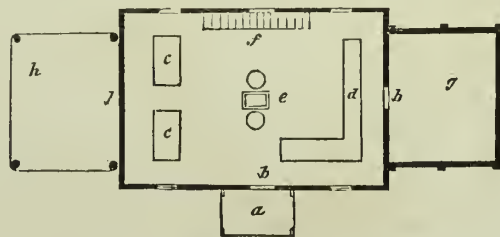


PERSPECTIVE VIEW OF A CHEESE DAIRY.

pying the left end of room, between which a passage leads through a door, *l*, into the wood shed, *h*, open on all sides, with its roof resting on four posts set in the ground. The large cheese table, *d*, stands on the opposite end. In the center of the room is a

accommodation than the plan here suggested a room or two can be added.

We gave on page 164 of the present volume of the PRESS a very full article descriptive of the process of cheese making, with some data for the cost of a cheese



GROUND PLAN.

chimney, *e*, with a whey and a water boiler and vats on each side. A flight of stairs, *f*, leading into the storage room above is in the rear. A door, *h*, on the extreme right, leads into the ice house, *g*.

There are four windows to the room, two on each side, front and rear. In the loft are placed the shelves for storing the cheese as soon as sufficiently prepared on the temporary table below. This loft is thoroughly ventilated by windows, and the heat of the sun upon it ripens the cheese rapidly for market. A trap door through the floors over which is hung a tackle admits the cheese from below, or passes it down when prepared for the market.

The cheese house should be placed on a sloping bank when it is designed to feed the whey to pigs, and even when it is fed to cows it is more convenient it to pass to them on a lower level, than to carry it out in buckets. It may however, if on level ground, be discharged into vats in a cellar

dairy, etc., which may be found interesting if read in the above connection.

Emerson's Stone Saw—Important Invention.

Your readers are familiar with the movable teeth timber saw, first introduced in California by James E. Emerson, and now in general use. Mr. Emerson has invented a saw of similar principles, which is designed to walk through marble and granite with less speed, but with every other advantage that is possessed by his timber saw.

The mode of fastening the teeth is an improvement, for the rest everything depends upon the material and the temper of the teeth, according to the hardness of the stone. For granite and porphyry, carbon points are preferable; but very

MECHANICAL PROGRESS.

Mode of Manufacture of Russia Iron.

It has generally been supposed that the process of manufacturing Russia sheet iron was guarded as a great secret by the Russian government; but Mr. John Percy, in a lecture recently delivered before the Royal School of Mines, London, remarked that it has recently been ascertained that this secrecy was more dependent on ignorance of the Russian language than on anything else, and proceeded to give the *modus operandi*, which we condense from *The Builder*, as follows:

The iron which is the subject of this manufacture, is derived from pig-iron, obtained by smelting the following ores with charcoal in cold-blast furnaces—namely, magnetite, carbonate of iron (*sphæro siderite*), and red and brown hematite. The conversion of the pig-iron into malleable iron is effected either in the charcoal-furnace or in the puddling furnace.

The puddle-balls intended for the manufacture of sheet iron, are rolled into bars 5 in. wide and $\frac{1}{4}$ in. thick. The iron should be more crystalline than fibrous, and should contain sufficient carbon to render it more like steel than iron. The machinery required consists of one or two pairs of rolls and two kinds of hammers. Reheating is conducted in furnaces of particular construction. The rolls should make not fewer than 50 revolutions a minute. The hammer-heads are of wrought iron, with striking faces of steel. Each anvil consists of a solid block of white cast iron. It is necessary that the hammers and anvils should be so made, in order that they may have the requisite hardness, in default of which the surfaces of the sheets would not acquire sufficient brightness or polish.

The bars are heated to redness, and cross-rolled into sheets about 29 in. square; and in order to become thus extended, they require to be passed through the rolls about 12 or 14 times. The sheets thus produced are arranged in packets of three in each, heated to redness, and rolled, each packet passing through the rolls about 10 times. But just before rolling, the surface of each packet is cleaned with a wet broom, usually made of the green leaves of the silver fir, and powdered charcoal is strewn between the sheets.

The sheets obtained from this rolling are sheared in the dimensions of 28 in. by 56 in. Each sheared sheet is brushed all over with a mixture of birch charcoal powder and water and then dried. The sheets, so coated with a thin layer of charcoal powder, are arranged in packets containing from 70 to 100 sheets each; and each packet is bound up in waste sheets, of which two are placed at the top and two at the bottom. A single packet at a time is reheated, with logs of wood about 7 ft. long placed round it, the object of which is to avoid, as far as possible, the presence of free oxygen in the reheating chamber. The gases and vapors evolved from heated wood contain combustible matter, which would tend to protect the sheets from oxidation in the event of free oxygen finding its way into the reheating chamber.

The packet is heated slowly during five or six hours, after which it is taken out by means of large tongs and hammered. The packet is moved so that the blows fall in an indicated order. After this treatment the surface of the packet presents a wavy appearance, as the striking face of the hammer and the face of the anvil are both very narrow. When the packet has traveled about six times under the hammer, in the manner specified, it is removed; and immediately afterwards completely finished sheets are arranged alternately between those of the packet.

The actual cost of manufacturing these Russian sheets is about \$64 per ton, to which must be added general charges, which raise the amount to \$83 per ton, exclusive of profit. The average price of sheet iron at the fair of Nijni-Novgorod is from \$110 to \$125 per ton.

ENGRAVING ON GLASS.—Instead of using aqueous hydrofluoric acid for engraving on glass, M. Siegwart recommends a solution of eight parts of any alkaline fluoride dissolved in one hundred parts of water, mixing this solution just previous to use with one part of oil of vitriol. In order to remove every trace of organic matter, the glass before immersion in this bath should be thoroughly cleansed with a solution of bichromate of potassa, acidulated with oil of vitriol. A few hours' exposure is stated to be sufficient at ordinary temperatures to obtain a fine frosted surface.

Repairing Machinery.

The inevitable waste and wear which always, in the end, necessitate the abandonment of everything in its day useful to mankind, is compensated for and retarded by repairs. But in the attempt to do this, there is often much time and money needlessly squandered.

One of the principal causes of loss is delay in making timely renovations and substitutions; another is injudicious ways of repairing; and, lastly, repairing that which it were wise to abandon altogether. Instead of at once correcting what is amiss in a tool or a machine, many will let it run as long as it is possible to work with it, when it is often found impracticable ever to make it serviceable again; or, if not so badly injured as this, that one deficiency, which it would have cost little to supply, has caused many worse than the first.

In making repairs it is often thought a poor mechanic will do just as well as better and more costly skill. No greater mistake can be committed. We assert that the mechanical ingenuity, ready command of resources, knowledge of the adaptability of means to ends, skill of eye and hand, common sense, and sound judgment—which go to make up an accomplished mechanic—are more necessary in a repair shop than anywhere else. Here it is not the same old routine, day after day, the making and putting together of forms so familiar as to require little original thought; but every job varies in some particular from every other, and each must be repaired in a different way. It requires brains as well as manual skill to do this kind of work in a creditable manner, and every manufacturer will find it policy to put a first-class mechanic in his repair shop.

Lastly, in constantly stopping old machines to patch them up into make-shifts, there is often more money sunk than would supply their places with new ones. Many people estimate the cost of repairs only from the cost of material and labor; but in many cases the time lost in repairing is the largest element of expense, especially when the stoppage of one machine entails the stoppage of many others.

In repairing machines the following rules ought, therefore, to be observed: First. Repair as soon as anything gets out of order. Second. Intrust none but good mechanics with repairs. Third. Be careful not to continue repairs when machines cease to be worth them.—*Scientific American*.

IRON AND STEEL.—Mr. Gerhard, metallurgical chemist, of Wolverhampton, Eng., is proceeding with his experiments in the manufacture of iron, and has succeeded in producing from the ore, refined iron of a high order, at much under the cost of a similar quality very much sought after by certain machine founders and producers of finished iron. Mr. Gerhard, however, aims at the making of steel at much less cost than any of the methods now in vogue, and he has much confidence that he will soon succeed. He believes that he can see his way to the production of finished iron, in a pure state, without the interposition of the puddler.—*Journal of Society of Arts*.

CUTTING BEVELS.—The following is given by the *Scientific American*: 1st. Draw a rectangular parallelogram, the shortest side corresponding with the thickness of the board to be mitered, the other side with a line cutting the board horizontally when set at the required flare. Draw the diagonal line and the angle formed by the diagonal, and the shortest side is the required miter. If different sides of the box or seat flare unequally, each side must be treated by the same rule separately. 2d. Add half as many degrees to the miter angle (45°) as the side of the box deflects from the perpendicular. For instance, if the side of the box flares at an angle of 45°, an angle of 67½° will miter the corner.

HOW FINE IRON CASTINGS ARE MADE.—The finest castings of iron and bronze are made by using models of wax. These are imbedded in moulds made of fine ground earth, which are then heated red-hot. The mould is baked, the wax disappears, and the metal, when poured in, exactly takes its place. The wax model is often made in a gelatine mould, which, being very elastic, will slip off the original object which is to be copied into metal.—*American Artisan*.

IMPROVEMENT IN MAKING STEEL.—A new process for making steel has been invented by a Frenchman, and adopted at the steel-works in Givors, which requires from an hour to an hour and a half, and is so conducted that it can be arrested at any moment, and any desired quality of steel obtained.

SCIENTIFIC PROGRESS.

What Railway Dust is Composed of.

Mr. Joseph Sidebotham has made a microscopic examination of dust blown into a railway carriage near Birmingham. He says: "I spread a paper on the seat of the carriage, near the open window, and collected the dust that fell upon it. A rough examination of this, with two thirds power, showed a large portion of fragments of iron, and, on applying a soft iron needle, I found that many of them were highly magnetic. They were mostly long, thin, and straight, the largest being about 1-150th of an inch, and, under the power used, had the appearance of a quantity of old nails. I then, with a magnet, separated the iron from the other particles.

The weight, altogether, of the dust collected was 5-7 grains, and the portion of those particles composed wholly, or in part of iron was 2-9 grains, or more than one half. The iron thus separated consisted chiefly of fused particles of dross or burned iron, like 'clinkers,' many were more or less spherical, like those brought to our notice by Mr. Dancer, from the flue of a furnace, but none so smooth; they were all more or less covered with spikes and excrescences, some having long tails, like the old 'Prince Rupert's drops,' there were also many small, angular particles like cast iron, having crystalline structure.

The other portion of the dust consisted largely of cinders, some very bright angular fragments of glass or quartz, a few bits of yellow metal, opaque, white, and spherical bodies, grains of sand, a few bits of coal, etc.

After the examination of this dust, I could easily understand why it had produced such irritation; the number of angular, pointed, and spiked pieces of iron, and the *Scoria*, or clinkers, being quite sufficient to account for the unpleasant effect.

I think it probable that the magnetic strips of iron are laminae from the rails and tires of the wheels, and the other iron particles, portions of fused metal; either from the coal or from the furnace bars. The large portion of iron found in the dust is probably owing to the metal being heavier than the ordinary dust, and accumulating in cuttings such as those between the two stations named.

If I had to travel much by railway through that district, I should like to wear magnetic railway spectacles, and a magnetic respirator in dry weather.

Science in Prussia.

Sir William Thomson stated in his recent address before the British Association, that in Prussia every university, every polytechnic academy, every industrial school, most of the grammar schools, in a word nearly all the schools superior in rank to the elementary schools of the common people, are supplied with chemical laboratories and a collection of philosophical instruments and apparatus, access to which is most liberally granted by the directors of these schools to any person qualified for scientific experiments. In consequence there will scarcely be found a town exceeding 5,000 inhabitants that does not offer facilities for scientific investigations at no other cost than that of the materials wasted in the experiments. And further, professors, preceptors, and teachers of secondary schools are engaged on account of their skillfulness in teaching; but professors of universities are never engaged unless they have already proved by their own investigations that they are to be relied upon for the advancement of science.—*Scientific American*.

EFFECT OF COLD ON GAS.—It may surprise some of our readers, who have given no attention to such subjects, to learn that the illuminating power of gas depends in a very marked ratio upon the temperature of the air in which it is burned. Thus, it has been found, taking the amount of light emitted at 65 degrees of Fahrenheit as a standard of 100 parts, that at 32 degrees, or the freezing point, the percentage of light is only .76; and that at 4 degrees above zero it is only .33, or about one-third of what it is at 65 degrees. On the other hand, increased heat if not accompanied by a corresponding amount of light, since the temperature of boiling water causes an increase of only four per cent. over the standard; and that of 320 degrees, or boiling paraffine, only 18 per cent. The loss of illuminating power upon the application

of cold is supposed to depend directly upon the condensation of the hydrocarbon vapors; since, at a temperature of 4 degrees a solid mass was found congealed upon the sides of the tube, containing, among other substances, benzole, ammonia and nitric acid.

A Resisting Medium in Space.

One of the chief arguments in support of the theory of a resisting medium in space, has been deduced from the retarded motion of Eneke's Comet, which, just now, is attracting marked attention from astronomers. Professor Eneke pursued his studies and calculations upon his favorite theory of a resisting medium, in connection with the movements of this comet, for more than forty years, or until within a short time before his death, which took place in 1865. In 1861 he published a resumé of his labors, which seemed to put the truth of his theory beyond a doubt. There are, also, two other comets, Faye's and Winneck's, which have furnished important evidence on this question.

Prof. Moëller, of Sweden, has devoted much time to calculating the movements of the latter named comet, and up to 1865, was inclined to agree with Eneke in his theory of a resisting medium. But in 1865, in revising his calculations with regard to Faye's comet, he discovered an error, by correcting which he was enabled to refer the movements of that body to a strict conformity with the laws of gravitation, independent of a resisting medium in space. So accurate was his prediction of its next return, that upon the first night it was sought for it was found in exactly the predicted place—the most accurate calculation of the return of a comet ever made. In view of this error the Professor is inclined, notwithstanding a very small unexplained perturbation observed in Winneck's comet, to conclude that the movements of that body are also in strict conformity with the laws of gravitation. He also thinks, for reasons given, that a careful revision of Professor Eneke's calculation will lead to a similar result.

Hence, so far as the motions of comets have been determined, the evidence is against the theory of a resisting medium in space; while no one has ever referred any retardation in the movements of the planets to any other than the disturbances of known bodies. If it should be proved that a retardation actually exists in the movements of Eneke's comet, there are other causes, now admitted possible, to which such retardation may be attributed, other than a resisting medium. We have condensed the above from an article by Asaph Hall in the December number of the *American Journal of Science and Art*.

HEAT ON THE GROWTH OF PLANTS.—A paper has recently been published by Koppen, upon the relationship of conditions of heat to the phenomena of growth in plants; his first inquiry being limited to the question connected with the germination of the seed. The general conclusion arrived at was that varieties of temperature were in all cases prejudicial to the growth of the germ, even when amounting to but a few degrees, and these within limits favorable to energetic growth. That is to say, the germination process more rapidly at a low temperature of a uniform degree, than a higher, where subjected to more or less variation. From that we derive the inference that a nearly uniform spring temperature, with a clouded sky, is more favorable to rapid development of vegetation than the alternation of hot days and cool nights, it being of course understood that the mean temperature in each case is about the same.

A NEW MINERAL.—Prof. F. Sandberg announces a new mineral from Guadalupe, Spain, which he names glaukopryite, and which has the following centesimal composition: sulphur, 2.36; arsenic, 66.90; antimony, 3.59; iron, 21.38; cobalt, 4.67; copper, 1.14. It occurs, associated with carbonate of lime, tetrahedrite, and pyrrhite, in rounded aggregations, which, when magnified, are found to be composed of a series of thin layers. Its color is a light lead-gray, approaching tin-white.

SOLUBILITY OF METALS.—Mr. Chas. A. Leeley of New York, has recently been experimenting on solubility of metals without chemical action. Among other matters he has been investigating the properties of ammonium amalgam, which, from the mercury being increased ten fold in bulk, and also from the fact that it is compressible in a syringe, recovering, however, both its volume and appearance on pressure being removed, he believed to be a mercuric froth rather than an amalgam.

CORRESPONDENCE.

NOTES OF TRAVEL IN LAKE COUNTY.

EDITORS PRESS:—On a recent visit to Lake county for the RURAL, I found the agricultural people uniformly a hospitable and kind. On my way I spent an evening pleasantly with W. H. Nash, proprietor of the Magnolia farm, at Truebody's Station, Napa Valley. Mr. N. will have 75,000 trees of all kinds, from 1 to 2 years old, ready for market this fall. Among his small fruits, I noticed four varieties of English gooseberries. A sample of these were preserved in glass bottles with a preparation of alcohol and water. They are perfectly matured, and ripened without the slightest appearance of mildew. They are the old well-known varieties improved by hybridization.

The Waver is a long striped berry about the size of a common acorn. The Queen Victoria is about the size of a large Pecan nut. Both of these varieties have a very rich subacid flavor. The White Smith is about the size and shape of a large yellow gage plum, and is a good tart pie berry. Crown Bob is nearly round, and large as a hickory nut, with a finer flavor than either. All these varieties are great growers, and prodigious bearers. They have been raised by Mr. N. in this vicinity with great success. Might not the fact that they have been acclimated, make them grow in other similar localities without blighting?

In the vicinity of the Magnolia farm there is a belt of the most productive and best cultivated land in Napa county. Some farmers are cutting six tons of alfalfa per acre. This is more profitable, and produced with less labor than any other crop.

Before ascending the mountain we explored the country about Calistoga. In all the region the RURAL is in great favor with the farmers. There are so many beautiful nooks in the mountain scenery of California, that one hesitates to give preference to either. It is safe to say of nearly all "This is one of the most delightful." But if any one wishes to see a more delightful little nook in the mountains than either Cloverdale, Sonoma, or Calistoga, he will have to travel some distance before his wishes are gratified.

The productiveness of the soil and other resources around the latter are such as to make it a place of business and a pleasure resort. Calistoga is already assuming an air of commercial prosperity. Large quantities of grain, wool, minerals, and stock, are brought there from the interior to swell the increasing products of the neighborhood. Over 10,000 sacks of grain were produced upon the Sam. Brannan farm alone this season. The railroad depot is a stirring place, with a stirring little manager, and is fast becoming the business centre of Lake and much of Mendocino counties. Being an important railroad terminus, it brings Calistoga in direct and constant communication with the great interior and commercial trade of the State.

The Town

numbers several hundred inhabitants, with well regulated hotels, stores, and shops. Rows of neat cottages are built near the Springs and along the foothills that skirt the village—made more beautiful with ornamental trees and summer-houses. The native forests of fir trees that intermingle with other varieties, and rise one above the other, form a background to the picture such as is seldom met with.

A short distance from Calistoga and at the base of Mount St. Helena, is the famous Knight's Valley ranch. No agricultural district in the State is better watered, and we were told that Brooks, of New York, intended to sell several thousand acres in 160 acre lots, to good farmers next season. From Calistoga we rode by stage, with a clever, careful driver, to Lakeport, the shiretown, a locality evidently increasing in business and inhabitants, and bordering on Clear Lake. This lake is 35 miles long with an average width of 5 miles. It is one of the greatest, if not the greatest natural curiosity in the State. It is about 1,800 feet in altitude. Neither the county or the State can afford to have it raised or lowered an inch, beyond its natural boundaries, much less to lose one acre of the rich productive land lying along its borders. It should be permitted to dash its clear blue waters upon the shore undisturbed forever.

The greater portion of Lake county is a

mountainous, grazing country; but there is a large area of excellent tillable land in several smaller valleys—mostly bordering on Clear Lake. No other locality furnishes for the market finer sheep, hogs, horses, grains, and fruits. But the brightest feature of all is the home market created by

The Mineral Springs,

so long known by old settlers, but lately discovered to possess very remarkable medicinal properties. If this popularity continues to increase for the next five years as they have the two last, there will not be tillable soil in Lake county sufficient to supply the home market, which they produce.

I was not able to obtain an exact quantitative analysis of the different springs. But the actual results of their medicinal powers to heal sore eyes, scrofula, poison oak, rheumatism, neuralgia, dyspepsia, and urinary diseases is a test of their virtues; but those who came there with consumptive habits have either died on the ground or left worse than when they came.

The Bartlett Springs,

at present, are the most popular. At the time of my visit, there were near 400 invalids boarding or camping on the premises, who are daily drinking the "cool and sparkling water" from one spring. I conversed freely with many of these invalids who gave testimony of their healing virtues; some convalescing, and others quite well. The accommodations are plain. There is a hotel for boarders, and 22 cottages belonging to the proprietors. Board and lodging can be had for \$10 per week. A cottage for \$8 per month, and water free. There is a good hay yard, butcher shop, and grocery store. Visitors are accommodated in a primitive way with quite all the necessities of life. There is no way of getting to Bartlett Springs from Upper or Lower Lake, short of ascending a mountain 1,500 feet above the Lake. I was told that parties are constructing a good graded road to the springs. Next to this is the famous

Ripley Springs,

now owned by Dr. Caldwell. There the patients use baths mainly—though there is one small spring called by the patients, Bartlett water. I conversed with one James McConathy, who had been a helpless dyspeptic invalid for 14 years; but who, after drinking of this small spring, less than one year, is now able to carry on his own farm, and do the work of a common laborer. Dr. Caldwell is erecting a large commodious hotel, with well regulated bath-rooms, and has now from 200 to 300 visitors.

There are other springs of note, but I have only space to speak of one more.

Dr. Witter's Springs.

The locality of this, like the others, was long known, but only lately discovered to be the same class of water as the Bartlett Spring. The Dr. Witter Spring is at the head of Bachelor Valley, about five miles from Upper Lake, and is now attracting universal attention in the public mind.

A Remarkable Cure.

The discovery of the medicinal qualities of this spring was in this wise: A gentleman who had suffered with neuralgia near Santa Rosa for six years, and so severely that he had actually become a nuisance to himself and his friends, was taken to the Bartlett Spring a year ago last fall. After drinking the water only two days, he experienced decided relief; but his general health being such that he could not endure the cold climate of that locality, he returned to Upper Lake. While there, a friend brought him a bottle of mineral water from the Bachelor Spring. One drink convinced him that it belonged to the same class as the Bartlett. He remained there and drank the water till spring, when he had so far recovered that he went upon a farm and worked several weeks for wages. After the crops were in, he returned and drank the water of this spring till harvest, when he again went to work. After harvest he returned and said to the man who had squatted on the 160 acres, including the spring—"You have a fortune;" to which he promptly replied, "I will sell for \$200." The invalid informed Dr. Witter, of Upper Lake, of the offer and of the circumstances of the case, whereupon the Doctor bought it. It is now called the Witter Spring. The man who was "made whole" is over 60 years of age, and is now a hale, hearty man, with full, bright eyes, a moist skin, and as straight limbs as when a boy. He is now at the spring, drinks the water, and earns daily wages by preparing the way for others to come next spring and do like-

wise. He intends to end his days there, as a living testimony to the sanitary properties of the Dr. Witter Springs.

A well has been dug about 300 yards below this spring on the farm of J. M. Burko, the waters of which have a similar flavor, and with some have produced the same results with other complaints. This water is probably the seeping of the mineral waters above.

The Witter spring is delightfully located near schools, churches, dry good stores, and groceries, with a good farming neighborhood close by with all kinds of fruit and good company. The road leading to it is good and accessible with carriages. The cottages can be supplied with fresh water and wood in abundance, and the entire premises are environed with a shady grove. The outlook on Bachelor's Valley could not fail to delight lady invalids. This locality though called "Bachelor's Valley" is remarkable for healthy young children. Dr. Witter and his family are known for their intellectual culture and refinement. They will live on the ground. There are other Soda springs but the Bartlett water will supply many hundreds daily. The Doctor is a good medical adviser, and will make every possible improvement and effort to make the throng of visitors who may come there next spring, as comfortable and pleasant as possible.

M. B. S.

INDIAN VALLEY—PLUMAS COUNTY.

EDS. PRESS:—Indian Valley, lying in the northern part of Plumas county, and containing some 30,000 acres of tillable land, yields a luxuriant growth of native grasses and possesses a soil adapted to the growth of most kinds of grain and vegetables common to temperate regions.

It has a healthy and delightful climate, being free from those winds that prevail in most of the lower counties and yet is constantly visited by those healthful mountain breezes known only to high altitudes.

Cattle, horses, and sheep are extensively raised and nowhere in my travels have I seen stock of all kinds looking so well.

Every rancher has his barn and granaries well filled, and evidences of thrift are visible on every hand.

A new road is in course of construction from Reno, on the C. P. R. R. via Summit and Red Clover, entering the valley at Taylorsville. This road is being built by Thos. E. Hayden, of Reno, and will be finished by the 1st of January next, and I am told by parties acquainted with the route that it will be comparatively free from snow, and passable for teams at all seasons of the year. Thus the only disadvantage under which the valley has heretofore labored is removed and a rapid and direct communication with San Francisco is secured.

The principal towns of the valley are Taylorville, Greenville, and Crescent Mills.

Taylorsville,

situated at the eastern side of the valley, a thriving little town of some 400 inhabitants, is perhaps the oldest town in the valley, and in fact one of the oldest in this portion of the State. It has two good hotels, one kept by J. T. Taylor, from whom the town takes its name, and who was the first settler in the valley, having located here as early as 1851. In 1856 he erected a saw and flouring mill, both of which have been running ever since.

Mr. T. has done much toward developing the country, has spent the best part of his life here, and is rewarded by a considerable accumulation of property, sufficient perhaps to keep him comfortably in his declining years. The town has also a number of good stores, two first-class livery stables, Masonic and Odd Fellows' Hall, each society of which has a membership of about 40.

Of the Vernon hotel, kept by Mr. J. Hardgrave, popularly known as "Uncle Johnny," I think I can say there is no better kept house north of Sacramento. It is complete in all its appointments, and the building is large and commodious.

Land Titles.

For a number of years past a considerable trouble has arisen out of questions of titles to lands. Some of the older settlers having claimed, fenced, and otherwise improved much larger tracts of lands than they were entitled to, either under the

Pre-emption or Homestead Acts, and other parties constantly squatting upon these tracts and trying to confine large land holders to their just and lawful limits.

While our sympathies should be and are generally with the "squatter sovereign," under ordinary circumstances, as against the land-grabber, in this particular case it seems that the lands are not attempted, to be held for speculative purposes on the part of the holders; but are being made available, every foot of them being either under cultivation or pastured by cattle, sheep or horses.

We now learn that the question has been set at rest by an U. S. survey of the lands, the plats having been returned to Washington, and the land ceded to the State under the head of swamp and overflowed lands.

This will enable the present holders to obtain titles from the State and we have no doubt they will make matters right by opening the land for sale to bona fide and well-meaning settlers.

The past year has been one of unusual prosperity to farmers in these parts as they not only raised excellent crops, but realized good prices.

Now that the question of land titles has been settled, new mines are being discovered, a new impetus, and a better communication with the outside world having been established, a still brighter future seems to await the valley—and indeed the greater portion of Plumas county.

In another letter I shall say something of the American Valley, Greenville, Crescent Mills, and the adjacent mines.

W. M. A.

Agriculture in Montana.

[BY OUR OWN TRAVELER.]

Crow Creek Valley

is located near Radersburg. It is 10 miles long by 15 wide and contains 25 fine farms already taken up. Irrigation is necessary here. The water which passes down Crow creek, is first used by the miners, and afterwards by the farmers for irrigation purposes.

Rader's Ranch,

is situated near the town, and comprises 320 acres of land, well adapted for stock and agricultural purposes. Mr. B. has 400 head of cattle on his farm. He planted oats last year, and this year reaped a volunteer crop of 30 bushels to the acre.

Smith Bros' Ranch

is situated near by. There are four brothers, who have located 160 acres each, and they cut 80 tons of hay this year from 50 acres, which they sold for \$10 per ton. Wheat in the valley averages from 30 to 35 bushels to the acre.

Parker & Bro. have a ranch of 160 acres, from which they cut and sold 200 tons of hay this season. Mr. B. Townsley raised last year 3,535 bushels of grain upon 100 acres, and cut 75 tons of hay. He has 320 acres under cultivation, and possesses a very rich and productive ranch, the soil being black sod, varying from 3 to 8 feet in depth on the bottom lands, and from 3 to 5 feet on bench lands. The price of oats in the valley is \$2.25 per 100 lbs., and wheat \$2 per bushel.

Irrigation.

A scheme is on foot for constructing a ditch, from 25 to 30 miles in length, to bring water from the Jefferson river, for mining and irrigating purposes. It is said a scope of country 15 by 10 miles in extent could be thus irrigated. A survey has been also made to take the water from the Jefferson river to Helena, a distance of 136 miles. This would irrigate an immense quantity of land, and furnish water for the working of mining properties, which would pay from \$3 to \$15 per day to the hand.

Settlements.

In 1868 there were only nine ranches in this valley, but at present 40 farms are under cultivation, many being well stocked, and possessing good improvements. The farmers find a ready market for all the produce they raise, at remunerative prices.

W. H. M.

THE Michigan Apple Crop is the largest ever known in the State, and so large a business are the fruit-growers doing in shipping them east that most of them have started cooper-shops of their own to supply barrels.

HORTICULTURAL.

Some Remarks on the Changing of Plants from one Climate to Another.

[Written for the Press, by E. J. HOOPER.]

The people of California have a deep interest in the success of her agricultural and horticultural productions. The prosperity of the grains and grasses belonging to the temperate regions of the globe, as well as all the fruits, is now firmly established. Many of the products of the semi-tropical and tropical climes have found a congenial home in our highly-favored State. There is a large extent of country, south, where exotic fruits of many kinds are being cultivated with profit and it is fast becoming a very interesting question how many genera of these fruits may be made to succeed, to gratify the tastes and swell the pockets of its inhabitants.

In our great diversity of climates and elevations, more northerly, a great deal may be accomplished, also, in the same way. One of the most valuable of the rather tender grasses, the alfalfa or *lucerne*, is being planted with good results in nearly every locality of our naturally blessed slope. But it is more especially in the more southern counties that experiments may be made with most of the leading delicate plants of the entire world with a fair prospect of success.

The only and greatest drawback that California labors under at times, is the lack of sufficient seasonable rainfalls over the greater part of the State. To remedy this evil it is unnecessary to state that we must resort to such systems of irrigation as have been in operation in Lombardy, Egypt, etc., from very early times. This has rendered northern Italy the most fruitful country in the world. From each of the lakes that occupy the lower declivity of the Alps, and receive the waters of their innumerable springs, issues one principal canal, which, as it descends, is subdivided into a multitude of smaller channels, visiting every district, and even every individual field, to each of which the water is admitted at pleasure, by sluices; and having performed its office, passes off by another cut to the lower land until it ultimately reaches the Po, which carries off the whole drainage of central Lombardy into the Gulf of Venice. The banks of these canals are mostly planted with willows. Rice is raised there very largely by these means.

We have even a milder climate than Lombardy, where the vine, the olive, the orange, lemon, pomegranate, myrtle, various species of the cistus, aloe, and fig, do well, where a few specimens of the date palms of Africa are cultivated for ornament, as it does not produce fruit on the northern side of the Mediterranean. The orange and lemon tree are said to be more tender than the olive.

Generally maritime climates are not so mild as inland ones, but in California, in the southern parts especially, we have an exception to this—the wide Pacific Ocean on the one side and the Sierra Nevadas on the other, causing the climate to be most balmy and agreeable, and resembling a perpetual spring; and as very little difference is felt in the warmth of the different seasons, the gradual diminution of heat from the level of the sea upwards is more distinctly observable than in other climates. A similar equability of climate is found to prevail in those districts which are situated far above the level of the sea, but of course accompanied with a lower temperature.

I see no reason why a great many, at any rate, if not all, of our spices and aromatic plants, as cinnamon, cloves, camphor, ginger, nutmegs; as also the gums and resins, should not succeed in some of the warmest and numerous climates of California. We are merely making a beginning in these productions with many others of a similar tropical character. Maize and rice are the chief products of the tropical regions, and other farinaceous substances allied to corn, such as arrow-root and sago. The bread fruit tree which bears a substance having the taste and much of the nutritive qualities of wheaten bread is a native of the South Sea islands.

The most tropical regions or zones are the countries of the palms and laurels, mimosa, the sugar cane, coffee plant and

indigo. These regions extend from the ocean level to the height of about 3,500 feet. Then the temperate zone, in light above the tropical, comprises the tree-ferns, Peruvian bark, caoutchouc tree, camphor shrubs, *passiflora*, or passion flowers, and a variety of beautiful and useful plants. Then, at about 7,000 feet, the oaks are found, with wheat, barley, oats and the fruit trees of Europe. After this follows the most mountainous zone, from 6,000 to 13,000 feet, the regions of Alpine plants, as the *ranunculi*, *gentians*, and a number of hardy vegetation. Then succeed, still higher, the *gramineae*, which extend to about 15,000 feet. In the still loftier Arctic zone are only the lichens, with the *umbilicaria pustulata* and *verrucaria geographica*, these latter growing on rocks. The snowy region, barren of everything, crowns the whole of the above.

Now I will wind up this rather desultory paper, by stating that by comparison and experience in other parts of the globe in their climates, elevation, character and position, we may learn much in the way of adaptation to our California climes. No doubt we have much to learn, and will meet with both successes and failures; but so little has been known by the rest of the world and by cultivators, except within a very short period of time, of the capabilities of California, that but little of a valuable nature has been written on the subject, or gathered up by sufficient trials. "The world of California is before us, where to choose," in agriculture and horticulture, and it is certainly a wide one, to suit all farmers, horticulturists, or adventurers.

Heavy Poultry Shipment Overland.

It appears from the following, which we clip from the Davenport (Iowa) Gazette, of December 9th, that our friends over the mountains did not intend to be cheated out of their Christmas dinners:—"The heaviest single shipment of poultry ever made from this city leaves to-day for the State of Nevada. It comprises four tons of chickens and turkeys, and is made by Mr. L. S. Allen, commission merchant, in response to an order received from the President of the Miners' Association of that region. The order was for six tons—and the two remaining tons will be forwarded next week. The shipment is by express, the cost of freight being \$6.25 per hundred, or \$2,500 for this lot. The expressage is prepaid, as poultry is "perishable," and the express company takes no chances on this line of articles. The order was made by the heaviest commission firm in Nevada, who have the contract of supplying fowls for the Christmas dinners of several societies belonging to the Miners' Association.

No little care is necessary in preparing these shipments. In the first place Mr. Allen selected samples of only the best of live lots of fowls, the killing being done under his own direction. Each fowl was "dry picked." In packing every one was wrapped in two sheets of tissue paper, the heads being pressed under the wings, and the wings being folded close to the body. Packing was done in barrels, each layer being separated by straw. The poultry will cost the miners, when at the place of destination, something like twenty-eight cents per pound—there being an average of 128 pounds in each barrel. The selecting, killing and packing are all done according to order. The balance of the contract will be forwarded on Monday.

AN IMPORTANT DISCOVERY IN TANNING.—It appears, from investigation, that Western Texas has, in inexhaustible quantity two of the best tanning materials known to the world. The wood as well as the bark of the mesquite, a species of timber that abounds in great quantity, is found to be rich in tannic acid—nearly as rich as live oak. A remarkable and important quality of the tan of the mesquite, however, is that instead of beginning on the surface, it strikes through and through, incising into the hide, revealing the fact that the process of tanning goes on in the centre equal with the surface.

The experiments made are said to have demonstrated that the wood of the mesquite is fully equal to black-jack, which stands among the richest barks we use although the live oak is much richer than either. A letter from Texas on the subject says the discovery will have a very important effect in the supply of our country and the world with the necessary article of leather, the demand for which is constantly on the increase. The interest in this discovery and its value increases from the fact of the rapid exhaustion of the materials for tanning in our country, and in many other parts of the world.

PRACTICAL HINTS ABOUT IRRIGATION.

It is to be hoped that the preparations for irrigation which are now so generally being made, will not be allowed to slacken in view of a wet season in immediate prospect. Works for irrigation are as necessary to-day as they were three weeks ago. Plentiful rains are rather an exception in this State, and irrigation will be more or less needed, a portion of nearly every season, and in some localities, and for certain crops, every season. With this view we shall continue, from time to time, to urge upon our readers the importance of a thorough preparation, and shall omit no opportunity to lay before them any practical information upon the subject which we can obtain. It is with this view that we to-day give the following practical hints from a paper recently read before the Farmers' Club of Ballarat, Australia, by Mr. Thomas Bath. We condense from the *Australasian*:

Mr. Bath commenced by saying that what he had to say was mainly derived from his own experience during the past four years, during which he had obtained water for irrigation from a small lake or pond, which covers an area of about 1,200 acres, and which, when full, was seven feet deep. He irrigated a tract of about 500 acres which had been laid down with artificial grasses. His experience in

Irrigating Grass Land

had taught him that such land, in the absence of rain, required flooding once in 14 days—the amount of water introduced upon the land being equal to a layer of about two inches to the entire surface area, at each irrigation. His irrigating season averaged about 154 days; or 11 floodings during the season, or 22 inches in all—an amount about equal to the average of the rainy season there. He found that nothing was gained by extending the terms between the waterings over 14 days, as in such cases more water was required, and if the land got too dry the growth of the grass was invariably checked.

The increase from irrigation was more than doubled, even in ordinary seasons. The richer the land, the greater was the percentage gained.

Fruits and Roots.

Mr. Bath has made inquiry of a gentleman in a neighboring section who has had experience in the irrigation of mixed crops. He advised by all means that fruit crops should be irrigated, at least twice during summer months, especially at or just before the time the fruit is forming, when the ground needed a thorough soaking artificially or otherwise. Trees thus irrigated, made double the amount of wood of those not irrigated, while the fruit was both larger and better flavored.

Regarding such crops, he considered the advantage of irrigation beyond all question; carrots, parsnips, marigolds and sugar beets derive equal benefit from irrigation; while no plants seemed to profit more from a free application of water than tobacco and corn.

His experience with artificial grasses was wonderful, especially with prairie grass and lucerne. The latter he had cut six and seven times in succession, obtaining each time a full crop.

Manner of Introducing the Water.

The water should be drawn from the surface, because it is warmer there than lower down. Mr. Bath advises this, in the light of his experience, notwithstanding some advocate drawing from the bottom of the reservoir or stream, because more fertilizing matter will be thus obtained. Experience has shown that the water should be carried through the main conductor at a grade never less than 20 inches to the mile—a larger grade would be better, as both seepage and evaporation would thereby be reduced.

It will be found economical to have the land carefully laid out for irrigation. If there are any hollows, dish shaped, a proper drainage should be secured, else stagnant water will work detriment to the crops. It is better to irrigate small sections with an abundance of water, rather than too much ground with a scant supply. The latter is attended with more waste of water.

The feeders should be laid out with great care. Mr. B. irrigates his grass land by running the feeders bank full, so that the water will flow slowly over the lower bank of the feeder, in which manner it is allowed to run until the ground is thoroughly saturated down to the next feeder below. This is, of course, the practice on sloping land; but level ground might be flooded with

less trouble, as is done on the reclaimed lands of this State. It has been found advisable that the land should be allowed to become thoroughly dried before the rains set in.

Evaporation.

In storing water in reservoirs for irrigation, it should be remembered that evaporation and percolation is very great during the summer. Careful measurements made by Mr. Bath in the pond which he employs as a reservoir, show the loss from the above sources reaches 24 inches each summer. Too little allowance is generally made for evaporation, in laying out and constructing works for irrigation.

Raising Water for Irrigation.

Mr. Bath had some communication with a gentleman in New South Wales who had been irrigating by raising water, by steam power, 15 feet, from a creek, with a centrifugal pump, at the rate of 500 gallons per minute. His land was a rich, deep, black soil. He could not irrigate more than one acre in nine or ten hours. He found there was a great loss of water in employing such a small stream as his pump delivered. A larger stream, which would deliver the same quantity of water in a shorter time, would be more economical. He was of the opinion that irrigation by lifting water by machinery could not be made profitable except near large cities, where land was dear, and where it was necessary to obtain the fullest returns possible from a given area.

Irrigation at Salt Lake.

The result of irrigation at Salt Lake was instanced as an argument in favor of the practice. When the Mormons went to Utah, 24 years ago, they found it a miserable, sandy, desert waste; but through irrigation and careful cultivation, a large portion of the valley had become equal in productiveness to the richest lands of the Eastern States. An area of about 100,000 acres is irrigated there, and under grain and root crops. Wheat is their staple production, which yields as high as 90 bushels to the acre, and ripens without a drop of rain. The site of Salt Lake City had neither a shrub or a tree when first settled by the Mormons; but it is now adorned with great numbers of trees and gardens. Water is derived from Lake Utah, the water of which is fresh and 100 feet higher than Salt Lake, into which its overflow finds its way. A mountainous country, where facilities can be found for reservoirs by raising artificially natural lakes, ponds, etc., affords the best facility for irrigation. Such is the nature of that portion of Italy which is most thoroughly irrigated.

Cost of Irrigation in Italy.

The Lombardy water is sold at the rate of 500,000 gallons per season per acre (equal to a single overflow of 22 inches deep), as follows: Absolute purchase, about \$9 per acre; annual rent in perpetuity, about \$2.50 per acre. Water is also rented by the season, when there is a surplus, at somewhat lower rates; but in such cases the land-owner is liable to be deprived entirely in times of drought, when it is most wanted. The perpetual owner or leaseholder must be first supplied.

Plows, Etc.

EDITORS PRESS.—Having had several years experience in plowing in soils strongly inclined to adhere to the plow—also in manufacturing plows of various patterns, I may be able to aid your correspondent, Mr. Corrines, of Montana, in selecting a plow to his mind. Steel is the best plow metal for scouring, but the shape of the mould and share, and depth of furrows are of most importance. The earth should be well raised before the turning commences. The mould and share at not too acute an angle with the landside. A well formed plow, run ten or twelve inches deep will scour well after it gets a dirt polish, even if made of cast iron.

The Moline plow made in Illinois, scours well. The Ellison plows made here are superior for scouring, they are also very substantial, especially his twelve horse gang. They also have a reputation for very light draft. The Caruthers plow made in Sparta, Ill., scours well in light, sticky soil. The Wisconsin Diamond plow ditto.

We are having quite a flood and future prospects seem to brighten.

I noticed an article in the Press on sago brush ashes as a fertilizer. Wood ashes are worth, in New Jersey, 50 cts. a bushel for the same purpose. The best New Jersey marl contains 11 per cent. of potash—hence its fertilizing properties. All crops take potash from the soil, which should be returned. Light soils receive most benefit from ashes.

S. P.

Marysville, Dec. 171.

[Mr. Ellison's advertisement will be found in another column.] EDITOR.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA COUNTY—From the *Oakland Transcript*, Dec. 19th: **FARMERS' CLUB.** Census statistics show Alameda to be one of the richest of the grain-growing counties, and in the variety and value of its pomological and vegetable products unsurpassed. Our farmers are as enterprising and intelligent men as can be found anywhere, and an organization with the object of inducing the cultivation of a greater variety of crops, and holding meetings for the discussion of matters of general interest to agriculturists, would doubtless redound to their own interests and the benefit of the State at large.

BUTTE—*Record*: **RAMIE PLANT.**—George F. Nourse of Chico, has the past year demonstrated that ramie may be successfully and profitably grown in this county. It is a plant requiring but little attention, and Mr. Nourse's experiments have demonstrated that every cultivator of the soil in Butte county, can produce this plant, and we hope they may be induced to engage in it at once. It will be found vastly less difficult than sericulture, and less troublesome and more profitable than sheep raising. In short, it is believed to be the most profitable thing our farmers can cultivate.

TURKISH MELONS.—R. Marcheila, of Oroville, raised this year 500 Turkish melons, which he is selling for seed. These melons, if kept in a cool dry place, preserve their flavor and are eatable for fully a year after being taken off the vines.

CALAVERAS—*Citizen*, Dec. 16th: **LARGE EGG.**—We have received a present from Mrs. Donnellan, in the shape of an egg, which was laid by a pullet 11 months old, and measures $9\frac{1}{4}$ inches in its longitudinal circumference, by $7\frac{1}{4}$ inches latitudinally. If any body has a pullet that can lay over that we would like to hear from it.

FRESNO—*Expositor*, Dec. 26th: **PLANTING CROPS.**—The rains thus far this season, have so encouraged the farmers, that many, who for a while had almost given up the idea of attempting to farm, are now busily engaged in planting and seeding their ground. Nearly double as much grain will be planted in this county, this year, as ever before.

KERN—*Courier*, Dec. 16th: **FINE VALLEY.**—The Tehachapi valley contains not less than 80 square miles of good land, available for agricultural use. Of this rather more than 9 square miles is a level tract of alluvial soil. The remainder, consisting of low hills, is equally valuable, and in many places more desirable than the valley proper; but in the whole region, including Cummins and Bear Valleys, the area of good land in this section of the county may be set down, under a low estimate, at 150 square miles. Of this vast tract, not more than one-tenth has passed to the ownership of private individuals. It is well supplied with valuable timber, well watered, and the soil fertile, and remarkable for a luxuriant growth of grass. The average elevation above the sea-level is about 3,000 feet. The climate is as healthful and delightful as might be expected from the situation. Experiments conducted during the past year or two, have made it certain that anything, almost, in the way of farm produce, will grow there, that will flourish north of the Ohio. We know of no place in the State that offers more present and prospective inducements to settlers.

ALFALFA.—The *West*: J. R. Reeder, living within half a mile of the town of Bakersfield, Kern county, has 35 acres of land sowed with alfalfa. He keeps three men and a mower in the field continually, and they have never yet succeeded in getting ahead of the growth of the grass. It positively seems to leap up. It is about the most nourishing feed upon which beef and dairy cattle can be fed. Mr. Reeder sells all he raises at \$17.50 to \$20 per ton on his farm, and draws from each acre about \$100 per year, of which at least one-half is net profit. The total crop this year will be 200 tons.

FINE SHEEP.—Mr. P. D. Jewett has arrived with 80 fine Spanish Merinos of the Infantado variety, 6 of them bucks, which he had himself personally selected from the choicest flocks in the New England States. These sheep were purchased at prices ranging from 50 to \$200 each, and their average cost was about \$100 per head. No doubt his importation is really worth much more at the place of purchase than it cost him, and he informs us, as his 74 ewes are with lamb, by incontestable the best buck in the United States, he expects

to derive more profit from them the coming year than from all his other flocks combined, comprising 12,000 head of fine grade sheep. Sheep raising offers a fine field in this county for the profitable investment of skill, enterprise and money.

COTTON GROWERS' ASSOCIATION.—The enterprise of the Cotton Growers' and Manufacturers' Association is looked upon with marked favor, and the stock is being taken with a degree of readiness entirely unexpected when the company started. They intend to build upon and largely improve their property in Bakersfield the coming year, and it is not improbable, before the close of 1872, they will have nearly half a million of dollars invested at this point in the cultivation of the soil and in the erection of manufactories. Bakersfield is peculiarly fortunate, so early in her career, to have attracted the attention of capital as a point for the location of great manufacturing and other important industrial enterprises.

SAN JOAQUIN *Argus*, Dec. 16th.—**COTTON PLANTING:** Mr. Allen, a youngman recently from South Carolina, passed through this place on Saturday last on his way to Kern county, where he is about to enter into the business of cotton planting, having perfected arrangements for planting 1,000 acres of land in the vicinity of Bakersfield; it being a portion of the 10,000 acres recently purchased of Livermore & Chester by the "Cotton Growers' and Manufacturers' Association. He informs us also that it is in contemplation to establish a cotton factory at Bakersfield, which will go into operation next fall or winter, of sufficient capacity to manufacture the entire crop of the staple that is produced.

LASSEN—*Sage Brush*, Dec. 16th: **CATTLE.**—J. R. Withington started 1,500 head of cattle from his ranch in this valley last Monday for the White Pine country. Considering the fact that he leaves sufficient stock behind to consume the 800 tons of hay that he has on his ranch, the number of his cattle in the aggregate must be considerable.

MERCED—*Snelling Argus*, Dec. 19th: **PLANTING CROPS.**—At this time the hills are green with young vegetation, and early planted grain has made its appearance above the ground. The people are in good spirits, and show a disposition to plant as large crops as their means will admit of, all hoping for an abundant return at the next harvest.

NAPA—*Reporter*, Dec. 16th: **FINE STOCK.**—At Mr. G. Barth's, on Brown street, may be seen some splendid specimens of live stock, which cannot be excelled in this county, if indeed in the entire State. "Humboldt" is a huge steer, seven years old, weighing 2,800 lbs. The "Napa Twins" are magnificent Durham steers, five years old, and weigh together about 4,800 lbs, being so well matched in every particular as scarcely to be distinguished apart. A cow, four years old, 1,900 lbs weight, is the largest and finest animal of its kind we ever saw. In addition to these, Mr. Barth has a pair of beautiful Cashmere goats, to possess which would be prized as pets, if nothing more; also a fine Merino sheep, whose fleece is of silken texture, and expected to yield, when sheared, from 16 to 20 lbs.

NEVADA.—*G. V. Republican*, Dec. 21st: **FARMING EXPERIMENT.**—A gentleman from Lake City informs us that an energetic Canadian is trying the experiment of raising wheat on the Henness Pass road, between Lake City and Snow Tent. The soil is good, and the only question is in regard to the frosts at that altitude—about 5,000 feet above the sea. The Canadian has sowed several acres, and it is already up and looks well. If the experiment is successful, a colony of Canadians, it is said, will locate ranches in the vicinity and make a business of raising wheat, not for grain, but for hay.

PLACER—*Auburn Herald*, Dec. 22d: **ALFALFA.**—We have experimented in the cultivation of alfalfa here in Auburn on a small scale, in about as forbidding soil as can be found on any of our hills, with rather good success. True we had but little of it and were enabled to give it water through the dry season. We cut it down 4 or 5 times during the summer, thus indicating about that many crops during the season, on poor land with irrigation. In the Fall we tried to dig it out, and thought we had done so, but in a few weeks it would appear again, and continued to do so all winter. The result led us to believe that if it is watered through one dry season the roots will reach down through the seams of the bed-rock to perpetual moisture, and that it will need but little if any care thereafter. Parties proposing to plant the seed would do well to

disturb the soil and bed-rock two or three feet deep on a rod or two square, irrigate a small patch on ordinary plowed ground, and let the remainder take its chances.

PLUMAS—*Cor. Bntte Record*: **INDIAN VALLEY.**—The ranchmen in the valley, as a general thing, have raised more than an average crop of hay and grain this season. At present oats are \$2.25 per cwt., flour \$5.00, and vegetables from 3 to 4 cents per pound; hay from \$10 to \$15 per ton. This is higher than it has been for 6 or 7 years, and is owing, no doubt, to some of the Sierra valley stock having been driven in here to winter, besides a larger amount has been shipped out of the valley than formerly. This season there has been at least 60 or 70,000 bushels of grain raised in Indian Valley, and there is not over one-tenth of the tillable land here under cultivation.

SACRAMENTO—*Antioch Ledger*, Dec. 16th: **SUGAR BEET.**—Sherman Islanders claim, with justice, that there is no place in the State where investment in a sugar manufactory can be made as profitable as at Emmaton. The soil of the Island is peculiarly adapted to the growth of this vegetable.

Bee, Dec. 23d: **ALFALFA.—The alfalfa clover has proved its virtue. The dry weather scarcely affected it, while all around grains and other grasses withered and died before maturing. Cattle and horses like it, either green or as hay; the yield is enormous, and many of our farmers along the American and Sacramento rivers have determined to sow largely of it, and rely on that mainly for feeding hogs, sheep, horses and cattle.**

Reporter, Dec. 20th: **LARGE VEGETABLE.** We saw at the Pacific Hotel a few days ago a cauliflower which weighed 17 pounds and was raised in the garden of Mr. Kuhlme. The seed was imported from Germany. Another head of similar variety was grown in the same locality this fall, and weighed 27 pounds.

SANTA BARBARA—*Press*, Dec. 16th: **FINE OLIVE GROWTH.**—Col. B. T. Dinsmore has shown us a sample of olives which grew on his farm in the upper part of Monticito, at the foot of the mountains, and some 5 miles from town. The berries are large, plump, and handsome. At least 5 of these cuttings are full of fruit. The young trees on which these berries grew, are 7 and 8 feet high, and branch out from the ground, which is the true method of cultivating the olive.

RIPENING.—The olives are fast growing ripe and turning purple.

SANTA CLARA—*Gilroy Advocate*, Dec. 16th: **BET SUGAR.**—We have been told by a gentleman thoroughly conversant with the business, and the character of the soil best adapted for growing the sugar beet that there is no land in California better calculated to grow these roots with success than the land around Gilroy. A great many farmers in the neighborhood can be growers of beets and producers of sugar at a profit upon land and capital employed far exceeding that of any other agricultural pursuit.

The wine produced in Santa Clara county will exceed 25,000 gallons.

SAN DIEGO—*Union*, Dec. 7th: **JULIAN PLATEAU.**—Between the northern line of the Cuyamaca rancho and the Santa Ysabel Valley there is a full township of public land, open to settlement. It is as fine agricultural land as there is in the State. The few farmers in this region have never failed of good crops. Drouth does not seem to affect this country; mesa land and valley is alike fertile. The whole country has yielded an abundant crop of hay, and has afforded subsistence up to the present time to thousands of cattle. The coming season doubtless will see this grand Julian plateau covered with fields of barley and oats and wheat, to which the greater portion of the soil is excellently adapted.

FARMING.—In the Sweetwater Valley the farmers are preparing the ground for the purpose of sowing grain. All are busy plowing, and many are planting alfalfa, their experiments having convinced them that for hay it is unsurpassed by any grass raised.

FRUIT RAISING.—The proprietors of the Santa Maria ranch intend to make some experiments in fruit raising this season. Several hundred trees will be set out, and among them a large number of apple trees. Peaches, pears, figs and other kinds of fruit will also be raised. In the San Isabel valley, not far distant, fine peaches have been raised for some time past by the Indians.

TOBACCO.—Tobacco raised on the ranch of John Place, on Smith Mountain, will compare favorably with Virginia, the soil

being of the same character as in that State.

SAN JOAQUIN—*Republican*, Dec. 23d: **GOOD PROSPECTS.**—Now that all the danger of a failure of crops from drouth the coming season has disappeared, we may expect a sudden and marked improvement in business in this valley. So far as a sufficiency of moisture is concerned, abundant crops next year may be regarded as a certainty. The veriest croaker in the land cannot point to a period when a season too dry for good crops followed a rainfall equalling that we have just had, at this time of year.

SONOMA—*Democrat*, Dec. 23d: **Bugbey's Natoma Vineyard** has produced 70,000 gallons of wine this season—without irrigation.

TULARE—*Times*, Dec. 9th: **WOOL GROWERS' ASSOCIATION.**—From the information now before them, the association are of the opinion that the fall clip exceeds the spring clip, as most of the grown sheep were shorn and all the young ones.

The committee find that so far the average price obtained was $25\frac{1}{2}$ cts. per pound. The spring clip as far as could be ascertained from the best information amounts to 4,915 sks.; total number of sacks for the year 1871, 9,830.

Supposing that the sacks would average 300 lbs., we have 2,949,000 lbs. The spring clip sold for an average of 22 cents per pound, the fall clip thus far at $25\frac{1}{2}$, but as much of it is not yet sold and the price is on the decline, perhaps it would be safe to say 24 cents for the fall clip, making an average for the year, 23 cents; then the annual clip would amount to \$678,270.

NEVADA.

Elko Independent, Dec. 23d: **NORTHERN ELKO COUNTY.—The South Fork of the Owyhee after leaving Independence valley, runs for 6 or 8 miles through a rocky cañon, then for 20 miles passes through a series of small valleys noted for their richness of soil and the mildness of their winters. Here wheat, barley, potatoes, melons, etc., mature well and the yield per acre equals California in its palmy days—while the snow has, in the severest winters never reached a depth of 4 inches. On the Middle Fork are Duck and Pleasant valleys. The former is about 15 miles in length by 12 or 13 wide, with a chain of fresh-water lakes, extending from the river across it in a northerly direction. All the land, except the meadows bordering on the lakes, is suitable for cultivation. As fine barley, potatoes, etc., as can be found anywhere were raised this year on Hull & Co.'s ranch. Pleasant valley, only a few miles farther down the river, is about 7 miles long and $2\frac{1}{2}$ to 3 wide, and celebrated for its timothy and clover meadows. For scores of miles in every direction the country is covered with a heavy growth of bunch grass. There is probably no place in Uncle Sam's broad domain that offers so many inducements for a goodly number of families to come and make permanent homes.**

MONTANA.

Cor. Deer Lodge Independent, Dec. 9th: **FLATHEAD VALLEY.—This valley is one of the finest I ever saw and is admirably adapted to the raising of grain and all kinds of vegetables. The Mission Farm is a fine one, well fenced and watered, and produces splendid crops of grain and vegetables.**

HAY is \$20 per ton and advancing. It is estimated 60,000 bushels of grain were raised in the Bitter Root this year.

ATLANTIC.

The shipment of preserved beef from Texas is steadily increasing. An invoice of a thousand cases has been shipped to Hamburg and 350 cases to Liverpool during the same week.

The Louisiana, Arkansas, Mississippi, and Texas cotton and sugar crops have suffered greatly by recent rain storms. The cotton was injured more than the cane by the beating of the rain.

NORTHERN Iowa has such a vast corn crop that the scripture readers propose to follow Pharaoh and lay it away in storehouses in the hope of a future scarcity.

The Ohio Farmer says the sheep flocks of Ohio are being slaughtered at a terrible rate. The editor has the names of four men, in three townships in Loraine county, Ohio, who are slaughtering 15,000 sheep, purchased at an average price of about 65 cents each. The sheep were bought in whole flocks. The principal object is the pelts. Except the hams of the best-conditioned sheep, the whole carcass is put into the cauldron.

BEEF PACKING.—Latterly this business has been transferred to the State of Kansas in the neighborhood of vast plains of pasture lying within and near the borders of that State.

HOME INDUSTRIES.

The Beet Sugarie at Sacramento.

We condense the following facts with regard to the Sacramento Beet Sugarie from the *Sancelito Herald*:

The success of this sugarie has more than ordinary interest, because the process is essentially different from that at the Alvarado. The two processes are in rivalry. The Germans at Alvarado insist that their system is superior; while the managers at Sacramento, also Germans, proclaim their "Robert, Diffusion process" cheaper by thirty per cent. in cost of labor and in cost of construction, and richer in yield of sugar.

The advocates of the Alvarado process, long in general use, say the sugaries of Germany which had been changed to the Diffusion system, are changing back again; while Sacramento has advices of opposite import. It is impossible to convey an intelligent description of Robert's process without diagrams. But we may say that, while beets are *rased* at Alvarado, and the juice extracted by centrifugals; at Sacramento the beets are *cut in thin slices* and macerated in cold water, dispensing with the use of centrifugals. It is claimed that the juice is thus more perfectly extracted, and requires less chemistry in purification. Certainly it saves much power and costly attendance, and it is equally certain that, by either process, sugar making in California is a success.

The *Herald* suggests that the Chamber of Commerce of this city invite Mr. Wadsworth, of Sacramento to give a public lecture, with diagrams illustrating both processes, and adds that while counties and cities are giving aid to railways it should be remembered that beet sugaries also merit consideration. They return twenty-five per cent. yearly profit; they utilize 1,000 acres of land each; each gives employment to at least 125 hands, directly; and no population is more esteemed in Europe than that of sugar towns.

It may be added that the sugarie at Alvarado has inaugurated a system which ensures constant occupation. When the stock of beets are worked up, the mill is converted into a refinery of cheap imported sugars, which is also very profitable.

The sugarie at Sacramento intends to prolong the season of sugar making by planting melons. They yield sugar equal to beets, and the crop will add three months earlier milling. Besides, we can grow melons on soil not adapted to beets; and the melon syrup is excellent for table use, while beet syrup is fit only for distillation.

San Francisco Glass Works.

This establishment is located at foot of Fourth street, Newman & Duval proprietors. During a recent visit we found them busily engaged in making demijohns, carboys, wine, and mineral bottles, etc., which seemed fully equal to the imported articles. About thirty men and boys are employed, and arrangements are being perfected to manufacture patent fruit jars for the coming season. We learn that none but the very best jars will be introduced. Acid bottles with glass stoppers are also made, a new thing in California. These glass works from their accessible location, attract many visitors to see the process of glass blowing. A large assortment of goods is kept constantly on hand, and private moulds (lettered) for furnishing bottles to those who put up special articles or wish to have their names engraved upon them. The proprietors received a silver medal at the late Mechanics Institute Fair, for an exhibition of fine glass ware. They propose at no distant day enlarging their establishment and manufacturing a better variety of glass. The whole works are under the efficient management of Mr. C. Newman.

SANTA CRUZ COUNTY has decided to give \$100,000 to secure the extension of the railroad from Watsonville to the county seat.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

TWEER.—A. M. Worthing, Reno, Nev. The object of this invention is to provide an improved tweer for blacksmiths and other forges, and it consists of a box into which the blast is driven, and from which it is delivered upon the fire through slots in the top of the box. The amount of air supplied to the fire is regulated by slides, which close the blast openings to a greater or less degree. In order to keep the whole apparatus cool, a water pipe is carried alternately through between the blast openings, and this prevents undue heating, and also keeps cinders from adhering to the fire surface.

IMPROVEMENT IN EARTH CLOSETS.—Robt. R. Strain, San Francisco, Cal. This improvement in earth closets relates to that part by which the earth is automatically taken from the hopper and deposited in the vessel below the seat; and it consists of a sliding frame or box, which is caused to move back and forward and receive a charge of earth from the hopper when the seat is pressed down by the weight of the occupant, and when the weight is removed the mechanism causes the box to be carried forward and deposit its contents in the vessel beneath the seat.

This seems to be a very complete, ingenious, as well as useful invention.

FARM GATE.—David Creighton, Vacaville, Solano county, Cal. This invention relates to certain improvements in automatic farm gates of that class which have one stationary and one movable pintle or hinge; and it consists in the employment of a double lever at each side of the gate, having one long and one short arm, and so connected with the operating arms and the bails in the road bed, that the long arm of one lever serves to open the gate to an approaching team, while the short arm of the other lever closes the gate after the team has passed. This is done by alternately moving the pintle at the bottom out of line, so that the gate will swing in one direction or the other, as the case may be. After having opened the gate, neither arm of the lever so doing can again move the gate till it has been closed by the other lever.

Important Decision.

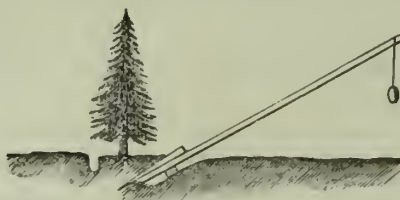
Farmers, especially, will be interested in the following decision not long since decided in the Supreme Court, in reference to mortgages on growing crops: Williston had a mortgage on a crop of wheat grown by McGrane, who cut the wheat about the 20th July, and on the 10th August sold it while in stacks and shocks in the field to Goodyear. Five days afterward, Williston came along and took possession of the wheat under his mortgage. Goodyear brought suit and recovered judgment, and the Supreme Court affirmed the judgment on appeal. The moral is, that if you take a mortgage on a growing crop, you must not wait for three weeks after harvest to take possession, but you must be on hand without delay. The record of the mortgage is protection before the grain is cut, but, after cutting, the general rule applies that the mortgagee of personal property is not safe unless he is in possession.

IMPROVED STREET CAR.—The Omnibus Railroad Company, of this city, is about to put upon their lines a new kind of cars, which will obviate the necessity of having a conductor. A glass box is fixed in the front end of the car and the passengers deposit their fare or tickets therein in sight of the driver, who turns a crank, which throws the money from a shelf into the bottom of the box. This improved fare box has been invented by a gentleman in this city, and is said to be more simple and convenient than any now in use. It is already in use in Oakland and is said to work successfully. The cars will be smaller than those now in use, so that one horse will be sufficient to do the hauling. The new car will be connected with the truck in such a manner that it can be turned on a central pivot or kingbolt without detaching the horse when the end of the line is reached. There are no platforms, entrance to the car being effected by means of a step at the door in the rear, just like the old-fashioned omnibus. These one-horse cars are used in several Eastern cities, and in New Orleans none others are in use. Several cars of the new pattern are being constructed and some of the old ones will be altered.

Transplanting Large Trees.

The transplanting of large trees, which it is now well understood can be made a success by proper care in moving with them a large mass of earth, would be much oftener practiced were it not for the great difficulty and inconvenience attendant upon their removal. A correspondent of a late number of the *Country Gentleman*, however, has communicated to that paper a very convenient device, by which the labor of such work is greatly simplified. The trees on which he experimented were arbovitae, some fifteen feet high, trees which it is well known are extremely difficult to transplant with success. The weight of earth which he removed with the trees was as much as three men could lift.

The subjoined diagram conveys a very distinct idea of the manner in which they were taken up. A cut should be made en-



tirely round the tree, and two or more levers might be used, according as the size of the tree might require. After the lever is placed it should be raised up as high as possible to insert the block or fulcrum, and the wedge upon top should be driven to its place after the fulcrum is adjusted. The wedge should be made quite broad, and driven well under the roots. If properly adjusted and proportioned to the size of the tree, the latter will be easily raised.

The Walnut Trees of Contra Costa Co.

EDITORS PRESS:—In compliance with your request, I send you a few hints in reference to the

Walnut Trees

in Contra Costa county, as recited to me during my visit there.

With the exception of a few near Mud Springs, in El Dorado county, these are the only ones of this species on the Pacific coast, at least so far as I have been able to ascertain. I think they are natives of this State. Some assert that they were brought here by the early Spanish missionaries; but if so, why are they not found at any of the old Spanish missions?

Walnut Creek,

on the banks of which they chiefly grow, rises in Trancoso hills, and about 25 miles from its source empties into Suisun Bay. By the Spaniards it is called Nueces. The trees are found scattered along its banks for the distance of some fifteen miles.

As an ornamental shade-tree, this variety of the walnut is much admired. It grows about as rapidly as the black locust. A root laid bare by the washing of the bank is said to be six hundred feet long! They are sold from nurseries in different parts of the State. The wood is dark, solid, and sometimes curly—much resembling the black walnut in the Atlantic States, only that it is a shade lighter. The trees are of good size. Twenty years ago some were found three or four feet in diameter.

The Nuts

taste exactly like the black walnut of the East, but they are not larger than a good-sized hickory nut; and while the surface of the nut from the East is exceedingly rough, these are quite smooth. Sacks full of them are carried off every year by excursionists.

J. PETTIT.

Oakland, Dec. 16, 1871.

CATTLE DYING.—It is stated that in some portions of the State the cattle are suffering much from the continued severe weather, and the low state of flesh to which they were reduced by the destruction of the old pastures by the early rains. Many have died in consequence.

The First California Vineyard.

About the year 1771, the vine was first planted in our State, and Mission San Gabriel claims the honor of having the first vineyard. The early history of this vineyard, as well as the origin of its vines, is lost in the past, but has given rise to many speculations. It is believed by some that the vines were brought, by roots or cuttings, from Spain, either directly or by way of Mexico; others hold that these vines were taken from some one of the many wild varieties that are scattered over the whole State; and there is still another theory, which is upheld by General M. J. Vallejo, than whom there is no better authority on the subject in the State.

According to his statement, the Fathers first tried to make wine from the wild grapes, but, being unsuccessful, planted the seeds from raisins that came from Spain. The result of these experiments gave them several varieties, among which are our present blue Mission and a white grape of a musky flavor. These two, after due trial, they retained and propagated, rejecting all the others.

The first two theories are certainly very defective; for, even with the quick and certain journey that can be made in our days of steam locomotion, an enormous percentage of roots and cuttings die on the trip—in fact, but a very small percentage reach us in a living condition, and it requires all the advanced horticultural skill of our age to revive and sustain them. As for once being of the wild species, they do not bear the faintest resemblance, either in fruit, leaf, or wood, to any wild variety. The bunches and grapes are large, the leaf full and decidedly marked, and the joints comparatively close, while their branches are sturdy—characteristics that are seldom found singly, and never collectively, in any one wild species of grapevine.

More probable than either of these theories, is that the seeds were purposely sent out from Spain, through Government authority, as certainly where the orange, the lime, the olive, the fig, etc., and this is the only rational manner of explaining the presence of the same two varieties—blue and white so called Mission grape—in New Mexico, where they are universally cultivated. The missions in both provinces, being under the direction of the same power in Spain, would naturally receive the same selections of seeds.

It is claimed by experts that the blue Mission grape is the same as the Beni-Carlo, but that does not alter the strength of the argument, for it may be its seedling, just as the Pineau of Burgundy has some eighty different seedlings, each and every one closely resembling the parent grape and vine.

It matters little, however, practically, where the first vines came from. They were known to grow at the Mission San Gabriel, and from there the planting of the blue Mission was extended from mission to mission, until not a single one was without it. The blue grape seems to have been the favorite with the Fathers, and undoubtedly because its wine resembled the red wines of Old Castile.—*Overland Monthly*.

Ruralists.

WHEN a man "is rooted to the spot," how long must he remain before he leaves.

ONE would hardly suppose farmers would be guilty of such conduct, but we are told that many of them "shock" their corn and then pull its ears.

WE think there are at least six papers published in the United States that have not yet remarked that "Chicago will rise, Phoenix like, from her ashes."

HERE is the worst conundrum ever propounded: What is the difference between a celebrated Puritan captain and a cow being milked? And this is the answer: One was Miles Standish, and the other (the cow) stands mildish!

A CITY man who knows all about farming, says the best way to raise strawberries is with a spoon.

A QUIET watering place—The milkman's. Why is a whalo like a water lily? Because it comes to the surface to blow.

THE farmers of Contra Costa county have formally approved the principles of a bill which requires every land-owner in the county to exterminate the squirrels on his land and, in case of his failure to do so, authorize a public officer to attend to the matter, the expense to be a lien on his land, and to be collected in the same manner as taxes.

USEFUL INFORMATION.

Taking Off Hides.

Being a worker in the leather manufacture, I have constantly under my notice the awkward manner in which the farming community take off the hides of animals of their own slaughter. The hind leg, for instance, being slit up along the under, or, perhaps, inner side, so as to leave the hock of the hide in the form of a scull cap. As upon being brought into work, every part must be made to lie flat, this portion has to be opened by cutting unsightly strips, which materially impair its usefulness.

The following directions may assist the novice in performing the operation:

We will suppose the animal dead and placed on its back; the operator, by thrusting his knife point foremost and edge up, makes a slit the entire length of the carcass, from the chin over the center of the breast in the line of the navel to the vent. Let him now stand by its side, with his face looking the way the head lies, and taking the forefoot in his left hand, run the point of his knife in the line of the cleft of the foot and cap of the knee, up the front of the leg and into the central slit of the bosom. For the hind leg, having reversed his position, let the slit be made in the line of the heel, over the center of the cap of the hock, down the back of the ham into the central slit. In this way the hides when spread out will have a square form without long projections, and consequent deep indentations of its outline.—*Cor. Canada Farmer.*

CURIOSITIES OF CHEMICAL SCIENCE.—An atom of water sometimes makes a most extraordinary difference in the properties of bodies. Thus, to give some more familiar illustration, the addition of an atom of water to starch converts it into sugar; the subtraction of an atom of water from alcohol converts it into ether. But perhaps the most curious change produced by the removal of an atom of water from a body has been recently discovered by Dr. Matthiessen of London. Morphia, the well-known active principle of opium, is commonly used to allay vomiting, and very often performs the duty very effectually. But when morphia has been heated with hydrochloric acid, and an atom of water has been thereby removed, it is changed into the most active emetic known. It is not necessary to swallow it to produce the effect; a very small quantity introduced under the skin, or even, it seems spilt upon the hand, is quite sufficient to produce vomiting, which, however, soon subsides, and leaves no nausea afterwards. The new body introduced into medicine has been named by its discoverer Ememorphia.

RUSTING OF IRON.—Dr. Calvert has communicated some very useful information on the rusting of iron. Rust is mainly sesquioxide of iron, and it has always been supposed that the active agents in producing it are moisture and oxygen. It seems, however, from Dr. Calvert's experiments that carbonic acid must be associated with these to produce any considerable amount of oxidation. In dry oxygen iron does not rust at all; in moist oxygen but little and seldom; but in a mixture of moist carbonic acid and oxygen, iron and steel rust very rapidly. In like manner a piece of bright iron placed in water saturated with oxygen rusts very little; but if carbonic acid is present as well, oxidation goes on so fast that a dark precipitate is produced in a short time. Curiously enough, bright iron placed in a solution of caustic or carbonated alkali does not rust at all. These facts show that the points to be attended to in the preservation of iron from rust are exclusion of carbonic acid and moisture, two indications which may be very easily fulfilled.

The relative value of gold and silver in the days of the patriarch Abraham was 1 to 8; at the period B. C. 1000, it was 1 to 12; B. C. 500, it was 1 to 13; at the commencement of the Christian Era, it was 1 to 9; A. D. 500, it was 1 to 18; A. D. 1100, it was 1 to 8; A. D. 1400, it was 1 to 11; A. D. 1613, it was 1 to 15½; which latter ratio, with but slight variation, it has maintained to the present day.

IRON SPONGE, which is coming into important use as a disinfectant and powerful absorbent of noxious gases, also a filtering agent superior even, it is said, to animal charcoal, is manufactured by calcining a mixture of iron ore and charcoal finely pulverized.

Useful Hints.

Why are some things of one color and some another? As every ray of light is composed of all the colors of the rainbow, some things reflect one of these colors and some another.

Why do some things reflect one color and some another? Because the surface is differently constructed, both physically and chemically, and therefore some things reflect one ray, some two rays and some none.

Why is a rose red? Because the surface of a rose absorbs the blue and yellow rays of light, and reflects only the red ones.

Why is a violet blue? Because the surface of the violet absorbs the red and yellow rays of the sun and reflects the blue only.

Why are some things black? Because they absorb all the rays of the light and reflect none.

Why are some things white? Because they absorb none of the rays of light, but reflect them all.

What is the cause of the wind? The sun heats the earth, the earth heats the air resting upon it; as the warm air ascends the void is filled up with a rush of cold air to the place, and this rush of air we call wind.

Why does the black skin of the negro never scorch or blister, with the sun? Because the black color absorbs the heat, conveys it below the surface of the skin, and converts it into sensible heat and perspiration.

Why does a drop of water sometimes roll along a piece of hot iron without leaving the least trace?—Because (when the iron is very hot indeed) the bottom of the drop is turned into vapor, which buoys the drop up, without allowing it to touch the iron. This is what is called the spheroidal condition of water.

Why does a laundress put a little saliva on a flat-iron, to know if it be hot enough? Because, when the saliva sticks to the box, and is evaporated, she knows it is not sufficiently hot; but when it runs along the iron, it is.

Why is the flat-iron hotter, if the saliva runs along it, than if it adheres till it is evaporated?—Because when the saliva runs along the iron, the heat is sufficient to convert the bottom of the drop into vapor; but if the saliva will not roll, the iron is not sufficiently hot to convert the bottom of the drop into vapor.

EAU DE COLOGNE.—Competent authorities declare that the excellence of this perfume almost entirely depends upon the purity of the spirit employed as its basis. Spirits made from malt and other materials not vinous will never produce Eau de Cologne of a high character, owing, it is believed, amongst other causes, to the odor of fusil oil in the first and to cantharic ether in the second. Neroli, without which neither genuine Eau de Cologne nor a good imitation of it can be made, is an essence obtained from orange blossoms (the bitter species, *Citrus bigaradia*), and hundreds of tons of flowers are plucked and consumed for the purpose.

TANNING COTTON.—*Cosmos* speaks of treating cotton fabrics with a solution of tanning to give them strength and resistance to moisture. *Nature* thinks the change produced cannot be great. In a subsequent number the last named journal gives a communication from a Northumberland tanner, who says that in that neighborhood the fishermen have for many years been in the habit of tanning their sails and nets with oak bark or cathechu. "Not only does it render them more durable, but in some cases where wet nets have heated and become tender, their toughness has been restored by tanning."

DIAMOND FIELDS OF AFRICA.—The official report first published in England declares the invoice of diamonds from South Africa to be 141 stones, worth \$37,000, for 1869; and 5,661 stones, worth \$625,000, for 1870. Besides this, there should be added some valuable gems found, as the Star of South Africa and a few others, worth \$75,000; total for 1870, 700,000. The dealers in diamonds in London and Amsterdam, however, declare that most of all the stones thus far found in South Africa are of inferior quality and do not compare with those obtained from other sources.

J. H. HALLENBECK suggests for photographers the use of thin sheet rubber instead of yellow glass for the sensitizing rooms. Light admitted through this rubber will not act on the sensitive plates.

THE TEA TRADE.—During the past year 15,000,000 pounds of tea were shipped East by rail from San Francisco.

GOOD HEALTH.

The Human Ear.

A Minute Description of it.

It would appear that all our hearing is done in a very literal sense under water, as shown by the following extract from a London paper:

"Prof. Tyndall concluded one of his recent lectures by giving a minute description of the human ear. He explained how the external orifice of the ear is closed at the bottom by a circular tympanic membrane, behind which is a cavity known as the 'drum;' the drum is separated from the brain by two orifices, the one round and the other oval. These orifices are closed by fine membranes. Across the cavity of the drum stretches a series of four little bones, one of which acts as a hammer, and another as an anvil. Behind the bony partition, which is pierced by the two orifices already mentioned, is the extraordinary organ called the labyrinth, filled with water; this organ is between the partition and the brain, and over its lining membrane the terminal fibres of the auditory nerve are distributed. There is an apparatus inside the labyrinth admirably adapted to respond to these vibrations of the water which corresponds to the rates of vibration of certain 'bristles,' of which the said apparatus consists. Finally, there is in the labyrinth a wonderful organ, discovered by the Marches Corti, which is, to all appearance, a musical instrument, with its cords so stretched as to accept vibration of different periods, and transmit them to nerve filaments which traverse the organ. Within the ears of men, and without their knowledge or contrivance, this lute of 3,000 strings has existed for ages, accepting the music of the outer world, and rendering it fit for reception by the brain. Each musical tremor which falls upon the organ selects from its tensioned fibres the one appropriate to its own pitch, and throws that fibre into unisonant vibration. And thus, no matter how complicated the motion of the external air may be, these microscopic strings can analyze it, and reveal the constituents of which it is composed; at least such are the present views of those authorities who best understand the apparatus which transmits sonorous vibrations to the auditory nerve."

SLEEPLESSNESS.—The best anodyne is a liberal amount of muscular activity out of doors every day. Persons who sit around the fire and lounge on the sofa, or read or sew a great part of the day, need not expect sound sleep; only the laboring man can taste it in all its sweetness.

Many fail to sleep at night because they will persist in sleeping in the day time. It is just as impossible to healthfully force more sleep on the system than the proportion of exercise requires, as to force the stomach to digest more food than the body requires. Rather than court sleep by industrious activities, many persons resort to medicine, and every new drug which is heralded as a promoter of sleep becomes at once immensely popular, even though it is known to possess dangerous qualities.

Chloral hydrate has had a great run, and even young men are known to be purchasing it at the drug stores, to be used in promoting sleep; it should never be taken unless advised by the family physician, for the medical journals are constantly publishing cases where serious harm and even fatal results attend its habitual use.—*Journal of Health.*

WHY THE COLOR OF BLOOD CHANGES.—The cause of the change of color in blood—darkening when exposed to carbonic acid, and brightening when under the influence of oxygen—is not as yet thoroughly understood. It is thought, however, that the red corpuscles contained in the blood are rendered flatter by oxygen gas, while they are distended by the action of carbonic acid. It is not improbable that under the former circumstances they may reflect the light more strongly, and thus give a more distinct coloration to the blood; while, under the latter, they may transmit more light and so allow the blood to appear darker and duller. Both of these theories have able advocates.

QUININE has been found to be excessively poisonous to some persons for whom it has been prescribed, producing fever, and a very irritating rash upon the skin, which resembles somewhat that of scarlatina or measles, in appearance.

Earth-Eaters.

A tribe at the mouth of the Amazon, say two recent travelers, whose veracity, we are told, can be relied upon, content themselves, or at least try to do so, with a fatty, ferruginous earth, of which they eat about a pound and a half a day. Nor is this the only place where this earth can be obtained, nor is its use confined to those who are unable to obtain any thing better. In Bolivia, for instance, an earth of this kind is sold in the public market, an analysis of which yields the following results: Every variety of these earths is almost entirely composed of fresh-water infusores, or microscopic shells. Their nutritive properties, therefore, are doubtless owing to the retention of animal substances by these shells, which thus constitute a species of antediluvian sustenance. It is not only, however, in the South that this kind of nutriment is made use of; in a country where warmth is of the first necessity, namely, Lapland, the inhabitants make use of a white mineral, in the absence of cereals. This dust is composed of nineteen species of infusores analogous to those found in the neighborhood of Berlin. In testing this skeleton dust, which is found in considerable quantities in Sweden and Finland, as well as in Lapland, Retzius discovered that it contained a large proportion of animal matter.

THE NEW STIMULANT.—Chloral drinking, according to the physicians, is superseding absinthe, opium and alcoholic stimulants among the better classes. An insidious sedative, its use grows more dangerously on the tippler than more actively intoxicating drinks. The manufacture of this drug is the best evidence of the extent of its use. In Europe its production has become one of the leading chemical industries, and it is sold by the ton. Baron Liebig affirms that one German chemist manufactures and sells half a ton a week. The London *Spectator* says: "Taking chloral is the new and popular vice, particularly among women, and is doing at least as much harm as alcohol. The drug is kept in thousands of dressing-cases, and those who begin its use often grow so addicted to it that they pass their lives in a sort of contented stupefaction. Chloral drunkards will soon be an admitted variety of the species."—*Philadelphia Press.*

CURIOS FACTS.—Every day brings additional proof of the superiority and greater power of endurance of medium-sized men for infantry. In answer to the question, Are you tougher and more vigorous than when you enlisted? the large, tall man almost universally answers that he is much less so; while, on the contrary, those of small or medium size, including many students and in-door mechanics, often of slender form, generally answer that they are stronger and much healthier than before they enlisted. The simple diet of the army, and pure air of tent life, invigorates them; besides, they probably take better care of themselves than large, strong men are apt to do. The last feel confident in their strength, and neglect sanitary measures.

BEE STINGS.—Very serious consequences sometimes arise from bee stings. The *Rural World* relates the following:—On Monday afternoon, Mrs. Wm. E. Sutliff was stung on the forehead by a bee, and instantly went into spasms. For two hours her life was despaired of, but yesterday her face commenced swelling rapidly, and last night she was much better.

These effects of stings depend quite as much upon the constitutional habit of the party as anything else. We have tried a solution of carbolic acid, one part of acid to sixty of water, and found it an almost instant and unfailing remedy.

INSPIRATION AND EXPIRATION.—If an adult man, breathing calmly in a sitting position, be watched, the respiratory act will be seen to be repeated thirteen or fourteen times every minute. Each act consists of certain components which succeed each other in regular rhythmical order. First, the breath is inspired, or drawn in; immediately afterward it is expired, or driven out; and these successive acts are followed by a brief pause. At each inspiration in a well-grown adult, about thirty cubic inches of air are inspired, and about the same or a slightly smaller volume expired.

At an anti-vaccinationist meeting recently held in Manchester, the resolution "That vaccination does not prevent small-pox, but doubles disease and death," was unanimously adopted.



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SAN FRANCISCO:

Saturday, Dec. 30, 1871.

Pictorial Engravings.

During 1871 we have presented the readers of this journal nearly 300 handsome engravings in its 832 pages. Many of these engravings were drawn expressly for our readers, and our general selections have been made with a view to their appropriateness to our special Pacific Coast readers. We have the assistance of the best designers in San Francisco, and regularly employ some of the best engravers in the United States, as can be proved by samples of their work. With improved and increased force in this department of our establishment, we promise a still better display of interesting engravings for the coming year.

Our Weekly Crop.

"The Dairy Business in California" is attracting so much attention, at this time, that we have prepared a plan for a "Cheese Dairy House," which will suit a moderate establishment. If something more substantial is desired, "Emerson's Stone Saw" may be found a valuable aid in preparing the materials for the same. In our library will be found some valuable hints about "Repairing Machinery," and other matters of "Mechanical" and "Scientific" interest. Our table contains some interesting correspondence—"Notes of Travel in Lake County," something from "Indian Valley," and from "Alameda." Our "Horticultural" department is continued, and some "Practical Hints about Irrigation" will not be found out of place, even in so wet a season as the present.

"Agricultural Notes," "Home industry," "Useful Information," Etc., arrest our attention as we pass along to the "End of the Year," where we meet with unexpected "Encouragement to Silk Culture and Manufacture." Just here the young folks will find something interesting, in the toy line, in the shape of "A Dollar Engine," near by which will be found "That Roasted Mutton," a lot of "Blooded Stock" and some information about "How to Kill Sorrel." Dropping for a moment into the "Home Circle" we find the "Young Folks" having a good time generally over the gifts of good old Santa Claus, where we leave them and pass on to look over the long list of good things which have been said in the RURAL during the year which is just drawing to a close.

THAT SIX-FOOT CUCUMBER, shown in our recent illustration of Montana fruits and vegetables, was grown by Mr. D. W. Curtiss, of Helena. Mr. C. also has 110 varieties of potatoes, which he will soon offer for sale (for seed) in our advertising columns.

CLOSE OF VOLUME II.

The present number closes the first year and the second volume of the PACIFIC RURAL PRESS. The days and weeks and months of an entire year have passed since we first essayed to furnish the farmers of the Pacific slope with a Rural Journal, which should be up to the times, at least as nearly so as the limited circulation within the reach of a Pacific Coast Journal, would admit of, without an extravagant outlay of money. That we have not fully filled the vast field which was open before us we are free to admit; but we hope and believe that our labors in the great cause of Agriculture and Horticulture have not been entirely in vain, and that our weekly visits to the thousands of Home Circles into which we have been so kindly received, have not been without some good.

We have endeavored to make a useful and instructive journal,—to divest it of the dryness and lack of general interest which usually attaches to an agricultural paper, and at the same time to avoid the opposite extreme in our effort to give variety to its columns. There is very little in a purely agricultural paper that can interest all in a family or in a community, but we have endeavored, in ever issue, to give something which should interest every individual reader, old or young, male or female, educated or uneducated. How well we have succeeded in this effort, or how well deserving such an effort may be considered, we leave for others to judge; but from the success which has attended our labors thus far, and from the numerous letters and words of encouragement which we are constantly receiving, we are led to believe that a vein has been struck which is in unison with a large majority of the thinking, intelligent portion of the community. If we have secured the approbation of such, it is all we ask. The fact that our circulation has reached, in a single year, more than twice that attained by any other agricultural paper on the Pacific Coast in the past or present, gives still further confirmation to that idea.

We seek to elevate and enlighten—to make a paper which shall be instructive and useful to both old and young. We hold that the newspaper should be the great instructor of the people—that it should lead and elevate—that it should address itself to the nobler feelings of its readers, instead, as is often the case, to their lower and morbid instincts, and thus lead them downward in the scale of intelligence and social progress.

And now that the year's labors have been ended—now that the crops have been planted and harvested, what have we learned during the twelve months just passed? Have our days and nights been passed without observation? Have no lessons or facts been brought to our minds which have made us wiser or better than a year ago? Farmers, what say you? Have you not learned something which may be of benefit to your neighbors—something which you can express in words through the columns of the RURAL PRESS, for the benefit of all, trusting that some other one will communicate that which shall, in turn be of benefit to you? Such will be gladly welcomed by us, and by all with whom we are in weekly communication. Kind readers—farmers, mechanics, working men—educated or uneducated, one and all, let us hear from you.

THE FARMERS' CLUB OF SACRAMENTO.—On account of the extreme inclemency of the weather, but few members were present on Saturday last and the meeting was adjourned for one week. The subject to be discussed at the next meeting is the Planting of Trees—including the varieties for hard timber.

ENCOURAGEMENT TO SILK CULTURE AND MANUFACTURES.

Two of the seven gold medals offered by the State Board of Agriculture for the most meritorious exhibitions at the State Fair, this year, were awarded to the silk industry. One for the production of the raw material—the cocoons—and one for the manufacture of those cocoons into different articles of wearing apparel.

This shows the high estimation in which our representative agricultural men hold their industry, as well as the confidence they entertain that it will, by proper encouragement, and by the careful and intelligent management of those who engage in it, become one of our leading and most profitable industries.

Silk Culture Extending.

Although some of those engaged in the production of silk on a large scale, under the encouragement of the bounties offered by the State, became somewhat disgusted with the manner in which those bounties were withheld, and finally repudiated; and although in consequence of such disgust and the losses they sustained as the result of such repudiation, they have not felt in any good humor, and have not been able to push the business forward with the energy with which they began it, and have not realized the grand results they anticipated; yet silk culture has been steadily spreading throughout the State, and increasing in importance, and bids fair at no distant day to rank among the most valuable of our California industries, as an adjunct of the farm.

It is true there have been no large plantations set out within a year or two past, and no very extensive cocooneries built; but it is also true that experience in silk culture in California, like the experience of all other countries, has demonstrated that this industry is more successful and more profitable when conducted as one of the adjuncts or incidents of the farm, rather than as the principal crop. In the first place a large number of the insects confined in one building, or in one room—like a large number of chickens in one pen—or a large number of sheep in one flock—are more liable to disease than when a smaller number are hatched and fed together.

Again, when a family has but few hens, they most uniformly take better care of them, and, as a consequence, make them more productive and profitable than when they have a large number. So with sheep, hogs, cattle and all kinds of farm stock. So also with the production of almost all agricultural products. The same rule holds good with reference to the silk worm, and this small insect being more delicate and more easily affected by good or bad treatment, than larger and more hardy animals, it is plain that the reasons in favor of growing them in comparatively small lots are much stronger than in case of such larger animals.

In the best silk growing countries, as Japan, China, Italy and France, there are very few large establishments; but on the contrary, the individual silk growers are each carrying on the business, and raising each year a few worms and selling a few cocoons about in the same manner as our general farmers each year raise a few chickens and sell a few eggs.

Shade trees for Silk Culture.

They keep no building exclusively for a cocoonery, and devote no considerable ground exclusively to the production of the mulberry trees. All the shade trees about their dwellings and out-houses, and along the streets and line fences, are of the mulberry, and when the silk worm season comes, some room of the house, or in some out-building, is temporarily converted into a cocoonery, and the females and children have a good time in picking the leaves and feeding and caring for the worms. By conducting the business in this manner, it is attended with little expense, and the proceeds are almost clear gain.

How to Make it Profitable.

No other agricultural operation pays so great a profit for the money and labor expended. This is the way silk culture is conducted and made so profitable in other countries, and this is the way to conduct it and make it profitable here. Let those who have the place for a shade tree or for a half dozen or more, whether in town or country, fill those places with the mulberry, the alba or moretti, and they will secure not only the handsomest and cleanest tree known in California, but the most useful and profitable one as a shade tree. Silk culture is

also one of the best incentives to industry in the family.

Habits of Industry.

It may be, and is so managed in the countries above named as to beget and cultivate habits of industry, frugality and thrift among the rising generation. If there be any country on earth where the rising generation—male and female—need something to lead to the adoption of these virtues, that country is California. If for no other reason, silk culture should be encouraged, not only by the heads of families, but by the State. We would not have any extravagant premiums or bounties offered for the production of trees or cocoons, but we would have a small premium given by the State, either through agricultural societies or through a Board of Commissioners, for each pound of silk produced and reeled in the family, for a number of years; just enough to call public attention to the industry, and to be continued a sufficient length of time to ensure it as one of the permanent occupations of our people.

No better use, in our opinion, could be made of a small amount of the taxes annually collected by the State; and we hope the attention of the present Legislature may in some manner be called to this subject.

THE LATE FREDERICK W. LORING NOT AN "OARSMAN."—Most of the papers which have noticed the death of this estimable young man at the hands of the murderous Apaches, have spoken of him as being "one of the crew sent by Harvard University to meet the oarsmen of Oxford upon their own waters," and also as "the 'stroke' of two crews which successively won the flags from Yale on Lake Quinsigamund." These references are incorrect. When Mr. Loring was in this city, just previous to his departure on the Wheeler expedition, he called upon us, and in the course of conversation alluded to the embarrassment he had often experienced on account of the similarity of names, and disclaimed all honor as an "oarsman." The celebrated "stroke" is still living and, we believe, in business in Boston.

UTILIZING LEAVES.—Most of our readers are familiar with the late discovery by Mr. E. T. Bugbee, of Vermont, of the new use of leaves as a substitute for bark in tanning. He finds that leaves and bark, in equal proportions, make better, more flexible, and smoother leather, than bark alone, while the work is done in less than half the time.

Some of the French economists are utilizing leaves in a different way; which, if the alleged discovery of Mr. Bugbee is as represented, is rather a waste than otherwise. It is said that the authorities of Paris are gathering up the leaves which fall from the trees in the parks of that city, pressing them, by machinery, into hard masses, and distributing them among the poor for fuel.

Agricultural Hardware.

Messrs Baker & Hamilton, whose establishment is located at Nos. 17 & 19 Front Street, in this city, with a branch house in Sacramento, have probably the most complete stock of agricultural implements and farming utensils in the State. In addition to their imports, they manufacture largely, having an establishment at San Leandro, Alameda County, employing about forty men, where they make large quantities of harrows, gang and single plows, seed sowers, cultivators, road scrapers, etc. Their establishment gives employment in the capacity of salesmen, book keepers, porters, mechanics, draymen and laborers, to not less than sixty persons. In a visit to their warehouses, we found almost every article needed upon a farm, together with steam engines and pumps, iron and wood-working machinery, mechanics' tools, rope and belting, hardware, etc. There were cider presses, butter workers, harrows, plows, fanning mills, threshing machines, hay and feed cutters, lawn mowers, horse powers, grain drills, reapers and mowers, headers, hay rakes, horse forks, corn shellers, churns, and in a word every thing necessary to complete and thorough farming. Most of these articles are brought overland from Eastern manufacturers and are the latest improvements in their line.

OUR CORRESPONDENTS.

PUBLIC BENEFACTORS.—Under this head an appreciative correspondent referring to the stiff-bound monthly and quarterly editions of the *Press*, placed for free reading on the ferries, steamers, sleeping cars, in depots, etc., throughout on this coast, writes as follows:—"It has been my good fortune to travel much in California and Oregon, and generally by public conveyance, stopping often at the traveler's home (the hotel), and no one thing has impressed itself so favorably upon my attention, as a source of pastime and pleasure, as well as having a saving influence from smoking, drinking and gambling, as good, selected, short articles of varied kinds of reading matter. Men become restless and uneasy very quick when the mind is unoccupied, and without thought or intention of doing wrong, fall into various vices to "kill time."

As diamonds are valuable from their superlative brilliancy, so your bound quarterlies become valuable from being generally the only fresh and really valuable reading matter given to the traveling public. While they ornament the tables of the steamers and hotels, their pages are laden with descriptions of mountains of treasure, valleys of marrow, and markets filled with fruit and fattened upon the dew drops of Heaven. They make us anxious to save time and save money, and aid in spreading your valuable papers before the public. Yours is an expensive and a noble work, and a generous public will not fail to reward you well for your efforts to furnish the Pacific Coast with two such valuable journals as the *SCIENTIFIC* and *PACIFIC RURAL PRESS*. E. P. H.

THE RURAL STANDS AT THE HEAD.—A subscriber, in this city, has handed our agent a letter, dated West Newfield, Maine, Nov. 26th, '71, written by Dr. Stephen Adams, from which we extract the following:—"THE *PACIFIC RURAL PRESS* comes regularly and is a treasure, replete with rich instructions in agriculture, mechanics, philosophy, morals and domestic virtues. We take many papers, but the *RURAL* stands at the head. California is a great State, though new, and the population small; it had no infancy, it was born full grown, and everything is on a grand scale, both in nature and art; almost everything is done according to true philosophy. I thank you for the *PACIFIC RURAL PRESS*."

A PAPER THAT PAYS.—One that pays its readers, we mean. A great many are benefitted, many times and in various ways, by the *PACIFIC RURAL PRESS*, who never think or are scarcely aware of it. Frequently, however, we hear direct testimony of its pecuniary value to our readers. Our Marysville agent, Mr. S. Pelton, reports an instance thus: "I met a farmer that takes the *RURAL*, who said he got two new ideas from one number worth more than the cost of a year's subscription."

DEEP VS. SHALLOW PLOWING.—Our correspondent, "S. P.," sends us the following note: "Mr. William Harky, nine miles south of Yuba City, broke his summer fallow deep with ten mules, and harvested last fall 25 bushels per acre. One of his neighbors, Mr. Moses Ellis, from deep-tilled summer fallow, harvested 30 bushels per acre; while shallow winter plowed fields in the same neighborhood were not worth harvesting. The latter kind of farming usually produces 20 bushels per acre in that locality in wet seasons. From such experiments good farmers may draw valuable lessons of instruction."

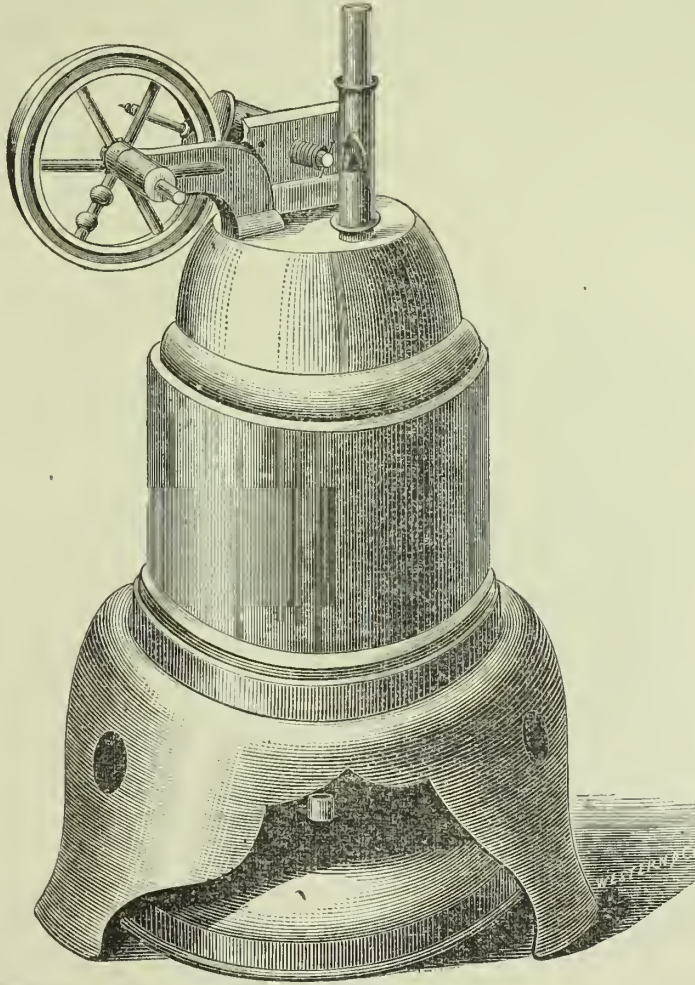
GOOD BYE, SIR.—It is reported that a subscriber has stopped his paper because we advertised a patented article which he bought and disliked. Now we do not know whether the articles are good or bad that we advertise; but when we say they are "O. K." in our editorials, our patrons may depend on them. We might put a line over our advertisements saying we are not responsible for all they say, but we do not believe we have subscribers enough of this sort to render it necessary. We refuse many advertisements, and we think we can say with truth that no paper has a less number of objectionable ones than the *RURAL PRESS*.

HONEY DEW AND ITS PRODUCERS.—Mr. Frank Carnana, of Grass Valley, has furnished us with an interesting curiosity in the shape of specimens of the honey dew and several of the little insects which produce it, to which we shall make some further reference at an early day.

The Dollar Steam Engine.

Our illustration represents a simple piece of mechanism, in small compass, called the "Dollar Engine." It is made more for boys who have a mechanical taste, than for any other purpose. It is a single cylinder oscillating engine, the cylinder takes steam at both ends. A safety spring acts as a safety valve, which renders explosion impossible. The boilers have copper bottoms. The stand is movable, so that the engine may be run by removing the stand and placing the boiler upon any heating surface. When not thus heated, a common spirit lamp is employed, which is shown in the engraving, within the stand.

The engine will run 1½ hours with a flame at ordinary light. The boiler has a steam dome and concave bottom, the latter giving large heating surface and consequently an abundant supply of steam



THE DOLLAR STEAM ENGINE.

which insures great speed and power.

The bottom of the lamp is turned up so as to form a saucer or rim, for the purpose of preventing any fluid spilled in filling the lamp, from igniting and burning the table or stand on which it is placed. Mechanical attachments suitable for these toy engines are made to go with them, such as sawmills, triphammers, etc., and will be found instructive and amusing for the young. Such an engine, with a greater or less number of "attachments," will be found of the most acceptable and instructive New Year's or Christmas presents which can be put into the hands of a boy. The possession of such machine will do more to create an inquiring and inventive mind than almost any other device that can be placed in his hand. It may even be the means of shaping his course for life, and turning his thoughts into one of the most useful and productive paths into which the young and inquiring mind can be directed. For further particulars address Wiester & Co., No. 17 New Montgomery street, in this city, or Kraft & Huffington, manufacturers, Brooklyn, N. Y.

THE LEGISLATURE.—Both Houses of the Legislature, after the transaction of some unimportant business on Friday 21st inst., adjourned until January 4th.

Farmers, write for your paper.

That Roasted Mutton.

In our issue of the 16th we copied an item from the *Antioch Ledger*, detailing the burning of a flock of 15,000 sheep, among the tules near that place. We find that the account needs some slight corrections. Messrs. Geo. D. Roberts, A. G. Kimball and Dr. McMurtrie, own about 13,000 sheep, which they have been pasturing during the past season on that portion of their tule lands lying along the Old San Joaquin and extending back towards the highlands. On the occasion referred to, the shepherds in charge saw the fire approaching, and tried to get the sheep on to open ground, where they would be safe. They succeeded in saving the flock, with the exception of about 150 head, which perished as stated. Our authority for the above statement is Mr. T. H. Bouton, one of the shepherds who went over the ground

ritory to kill sorrel; but suppose it to be in a generous application of broadcast sowing. We should like to get the particulars of the experience of any person in its use, whether for exterminating sorrel or as a manurial agent, how it is applied, in what quantity, etc.

Sorrel is a great pest whenever it makes its appearance, and is generally very difficult to eradicate. The sour principle in sorrel, we believe, consists of oxalic acid, and it is thought by many that the acid is obtained from the soil, and that the application of gypsum or lime, in any form, removes this acid by forming an insoluble oxalate of lime. This process is sometimes called "sweetening the soil." Ashes subserve the same purpose, only a larger quantity is required—the acid in the soil uniting with the potash supplied by the ashes. To the contrary of the above we have seen it stated that sorrel is sometimes found growing in a soil overcharged with lime. If so, the acid must in such cases at least be obtained from the atmosphere, a supposition by no means improbable.

As a general thing we believe sorrel makes its appearance on land, which has been worn out, or is naturally poor, or in some way unfitted for the vegetation which is sought to be obtained therefrom. In such cases the proper way to eradicate the weed would be to so improve the land by manuring, or thorough culture as to enable the vegetation better suited to a rich soil to choke out the sorrel, which is a natural habitat of poor soil. It is very probable that such is the manner in which the soil is killed out from the grass in Washington Territory. Gypsum is known to be a great stimulant to the growth of grass of all kinds, and sorrel cannot flourish in connection with a vigorous and close growth of grass.

In plowed land, as for corn or potatoes, or even grain, we are inclined to believe gypsum will do but little in eradicating sorrel. Thorough cultivation, a frequent stirring of the soil, and exposure of the roots to a hot sun is the best plan we know of to eradicate it from plowed ground. Sorrel, like all other weeds, will surely succumb to persevering, thorough cultivation. We should like to hear from some one who has had experience in this matter.

SPECIAL NOTICE.

The following communication was written by our agent before receiving our issue containing the illustration and editorial description of this new machine. We therefore give it in this form as a special notice.—[EDS. PRESS.]

BEST & BROWN'S SEPARATOR.

EDITORS PRESS:—I witnessed the operation of this remarkable machine for three days, and think it a duty to communicate what I saw, for public benefit. I manufactured threshers, separators and milling machinery about thirty years in the Atlantic States; yet find California mills ahead of the Eastern States in separators. We had supposed that perfection had been attained, when I came Best & Brown with their machine, and demonstrate the fact that (in very foul grain) their machine will clear the grain at one operation, which require two by the flouring mill separators. Further comment to the millers of this coast is unnecessary, and the great benefit which it will bring to the farmers needs only to be seen to be appreciated.

I send herewith a specimen of the work performed. You will see a few grains of plump wheat with the barley and oats, which is all saved by another running; also, occasionally, an oat and hulled barley grain with the clean wheat, which can be separated by a stronger blast.

I took the specimens from a lot of 80,000 pounds, which were being cleaned for W. T. Ellis, of the Marysville mill. Mr. E. told me he could not clean it so perfectly without putting it twice through his separator; and it is expensive to millers to stop their burrs, to clean grain twice over.

This machine is invaluable to farmers. Best & Brown are making a light horse-power, of only 400 pounds weight, but sufficiently strong to run it. This power is quickly loaded on the separator wagon, the two making a light load for two horses, which run the machine with ease.

Since writing the above, I have seen the separator at work on grain for Marcuse & Bro., grain merchants, of Yuba City—this time on grain of fair quality. I send a specimen of the work. If it pays heavy grain dealers like W. T. Ellis and Marcuse & Bro. to get Best & Brown to clean their grain at \$2.50 per ton, it certainly should be an object to the farmers to sow clean seed, and have their crop well cleaned, before it is put in market. s. p.

Marysville, Dec. 16th.

BOY HUNTERS.—Two brothers of Yreka, aged 16 and 17 years respectively, have, this season, killed seven bears, two of them grizzlies, a large number of deer, and found thirty-seven bee trees, and attended school during term time.

to count the dead sheep after the fire.

Mr. Bouton left the sheep camp on the 21st. Up to that time there had not been enough of flood to come over the dikes, and the river was falling. During the storm a good many of the sheep died from exposure to the cold and wet, but no larger percentage than is often lost from the same causes on the uplands. If sheep are kept in such large flocks that they cannot be sheltered during such a storm as has just visited us, large losses must be counted on.

How to Kill Sorrel.

EDITORS PRESS:—In your issue of December 9th, under notes to correspondents you state in answer to "W. F. A." that Gypsum is used in Washington Territory for the purpose of killing sorrel. Will you be kind enough to inform me through your valuable paper, the manner of using it.

Sorrel is making its appearance in this neighborhood, and farmers are becoming alarmed at its rapid spread; I have some of it on my farm and with all the efforts that I can make, I have failed to kill it, or even to check its spread. The information asked for alone, will be, when received, worth to me, more than the subscription to your paper for 50 years. The farmer that has ever read your paper, and does not subscribe for it does not know what is good for him, and deserves to have his farm overrun with sorrel, his cows scratch themselves to death in consequence of being fed on green cornstalks along with pigs.

Yours truly, S. H. BOWMAN.

Half Moon Bay, Dec. 13th, 1871.

We have no definite knowledge of the manner in which gypsum is used in Washington Ter-



"Love Lightens Labor."

"A good wife rose from her bed one morn,
And thought with a nervous dread
Of the piles of clothes to be washed, and more
Than a dozen months to be fed. [fields
There were the meals to get for the men in the
And the children to fix away [churned;
To school, and the milk to be skimmed and
And all to be done that day.

"It had rained in the night, and all the wood
Was wet as wet could be;
There were puddings and pies to bake, beside
A loaf of cake for tea.
And the day was hot, and her aching head
Throbbled wearily as she said,
'If maidens but knew what good wives know,
They would be in no haste to wed!'

"'Jennie, what do you think I told Ben Brown?
Called the farmer from the well;
And a flush crept up to his bronzed brow;
And his eye half bashfully fell;
'It was this,' he said, and coming near,
He smiled—and stooping down, [best
Kissed her cheek—"Twas this: that you were the
And the dearest wife in town!"

"The farmer went to the field, and the wife
In a smiling and absent way,
Sang snatches of tender little songs
She'd not smug for many a day. [clothes
And the pain in her head was gone, and the
Were white as the foam of the sea;
Her bread was light, and butter was sweet,
And as golden as it could be.

"Just think,' the children all called in a breath,
'Tom Wood has run off to sea!
He wouldn't I know, if he only had
As happy a home as we.'
The night came down, and the good wife smiled
To herself as she softly said,
'Tis so sweet to labor for those we love,
It's not strange that maidens will wed!'

The Old-Fashioned Mother.

Thank God! some of us have an old-fashioned mother. Not a woman of the period, enameled and painted, with her great chignon, her curls and bustle; white jeweled hands that never felt the clasp of baby fingers; but a dear old-fashioned, sweet-voiced mother, with eyes in whose clear depths the love-light shone, and brown hair threaded with silver lying smooth upon her faded cheek. Those dear hands worn with toil, gently guided our tottering steps to childhood, and smoothed our pillows in sickness; even reaching out to us in yearning tenderness, when her spirit was baptised in the pearly spray of the river. Blessed is the memory of an old-fashioned mother. It floats to us now, like the beautiful perfume of some woodland blossoms. The music of other voices may be lost, but the entrancing memory of hers will echo in our souls forever. Other faces will fade away and be forgotten, but hers will shine on until the light from heaven's portals shall glorify our own. When in the fitful pauses of busy life our feet wander back to the old homestead, and, crossing the well-worn threshold, stand once more in the low, quaint room, so hallowed by her presence, how the feeling of childish innocence and dependence comes over us, and we kneel down in the molten sunshine, streaming through the western window—just where long years ago, we knelt by our mother's knee, lisping "Our Father." How many times when the tempter lures us on has the memory of those sacred hours, that mother's words, her faith and prayers, saved us from plunging into the deep abyss of sin! Years have filled great drifts between her and us, and they have not hidden from our sight the glory of her pure unselfish love.

Home Reading.

One of the most pleasant and noble duties of the head of the family is to furnish its members with good reading. In the times which are past it was considered enough to clothe and feed and shelter a family. This was the sum of parental duty; but lately it has been found out that wives and children have minds, and so it has become a necessity to educate the children and furnish reading for the whole household; it has been found out that the mind wants its food as well as the body, and that it wants to be sheltered from the pitiless storms of error and vice by the

guarding and friendly roof of intelligence and virtue.

An ignorant family in our day is an antiquated institution. It smells of the musty past; it is a dark spot which the light of the modern sun of intelligence has not yet reached.

Let good reading go into a home and the very atmosphere of that home gradually changes. It becomes clearer, purer, more cheerful, healthful and happy; the boys begin to grow ambitious, to talk about men, places, principles, books, the past and the future; the girls begin to feel a new life opening to them in knowledge, duty and love; they see new fields of usefulness, and pleasure; and so the family changes, and out from its number will go intelligent men and women to fill honorable places and be useful members of the community. Let the torch of intelligence be lit in every household, let the old and young vie with each other in introducing new and useful topics of investigation, and in cherishing a love of reading, study and improvement.

Home, Wife, and Saturday Night.

Happy is the man who has a little home, and a little angel in it, on a Saturday night. A house, no matter how little, provided it will hold two or so; no matter how humbly furnished, provided there is hope in it. Let the winds blow, close the curtains; what if they are plain calico, without border, tassel, or any such thing? Let the rain come down, heap up the fire. No matter if you haven't a candle to bless yourself with, for what a beautiful light glowing coals make, rendering cloudless, sending a sunset through the room; just light enough to talk by, not loud, as in the highways; nor rapid, as in the hurrying world, but softly, slowly, whisperingly, with pauses between, for the storm without and the thoughts within to fill up with. Then wheel the sofa around by the fire; no matter if the sofa is a settee, uncushioned at that, if so be it long enough for two and a half in it. How sweetly the music of silver bells from the time to come, falls on the listening heart, then! How mournfully swell the chimes of "the days that are no more." Under such circumstances, and at such a time, one can get at least sixty-nine and a half miles nearer "kingdom come," than at any other point in this world, laid down in "Malte Brun." May be you may smile at this picture; but there is a secret between us, viz: it is a copy of a picture rudely done, but true as the Pentateuch of an original in every human heart.

THE WAGES OF WOMEN.—Why should not women have the same wages as men when they do the same work and do it equally well? If woman has to work for her daily bread, and of course she has in very many instances, wherever her labor is thrown into competition with that of man, she should be remunerated for what she does, and not for what she is. If she can do man's work, she is entitled to man's pay. To act otherwise is not only unjust to the last degree, but actually dishonest. If this principle be once not only recognized in theory, but carried out in practice, much good will inevitably result. The women workers of the country will be dealt with equitably and honestly, and what will be almost as great a boon to quiet-loving humanity, our great and important phase of the much-vexed woman question of the day will be settled once and forever. At present the women of the country are neither fairly nor honestly dealt with in the matter of wages.

TO KNIT A COUNTERPANE IN SHELL WORK. Cast on forty-four stitches. First time across knit plain; second time across pnt over thread, knit two together, repeat, etc.; third time across knit plain; fourth time across knit five narrow, rest plain; fifth time across knit five narrow, rest seam or purl, only last six plain; sixth time across knit five narrow, rest purl all but the last six stitches, those plain; so on alternately purling and knitting the middle, except change every five times across, so as to make stripes crosswise of five rows knit and five purl. Always put over thread and take off the first stitch without knitting, then knit four, and narrow the sixth and seventh stitches together; at the last end knit six plain.

THE BEST WARM DINNER.—The premium for the best warm dinner, to be cooked on the grounds, by a young lady, at the Montgomery (Ala.) Fair was awarded to Miss Lola M. Robertson, of Montgomery. She is a heroine, indeed.

CHARITY suffereth long and is kind.

Young Folks' Column.

Santa Claus in the City.

Christmas morning came in with a clear sky, and Old Santa Claus left his packages of gifts for old and young in hundreds of stockings, and upon beautiful Christmas Trees. He must have been pretty well loaded down, for thousands of dolls, toys of all kinds, wagons, books, candy and nuts were freely distributed. It would fill the RURAL PRESS full and running over, to tell all that Santa Claus gave away, and how many homes he visited. But we know of one little girl with large black eyes, who jumped out of bed as soon as it was light, and laughed all over her face when she saw how many beautiful presents were in her stockings and on the floor—the stockings were not half big enough to hold her treasures. There was a rabbit, a white, woolly dog, a doll, a basket of candy animals, a beautiful new hat, a little trumpet, a box of dishes, a cradle with a black baby in it, and ever so many more things. We know of a little golden haired boy, who found himself possessor of a gun, a trumpet, a horse "all saddled and bridled," a whip with a whistle in the handle, and a box of ten pins. Suppose we could pile all the Christmas gifts in the Pavilion square that were given in San Francisco, don't you think it would be a tremendous "heap of things?" Of course Santa Claus stopped at all the ranches and homes in the country, and made the children's hearts rejoice with his presents. The year 1871 has but a few days to live, and on Christmas evening of 1872, we hope old Santa Claus will find all our little friends still waiting to receive him as happy and lighthearted as they are during these holidays, over his many gifts. You have had a Merry Christmas, now a "Happy New Year," to all.

HE PUT A LITTLE SUGAR IN.—"Charley, what is it that makes you so sweet?" said a loving mother to her little boy, as she pressed him to her bosom.

"I dess when Dad made me out of dust he put a little thugar in," said Charley.

God has put a little sugar in the disposition of all children, says the editor of the *Young Pilgrim*, from which this is taken. Some keep it there, and are always sweet, and we can not help loving them. Some lose the sugar that God gave them, and they become sour and disagreeable.

Keep yourselves always sweet, dear children, with the sugar of love, and you will always be loved.

Charade.

My first, says Webster, is good-will.
God's favor, and his love;
That elegance which charms us still,
All other things above.

My second, is the lovely hue
Which tints the Emerald Isle,
And gives to Nature every spring
Her bright and glad some smile.

My third, a forest, in whose shade
The birds do blithely sing;
An article, from which is made
Full many a useful thing.

My whole, an anchoress—one whom
You love, although you have not seen,
Chose long since, as her *nom-de-plume*,
I'm sure you all know who I mean.

[This charade is the name of a lady now visiting San Francisco who has written many charades and puzzles for children.]

SAN FRANCISCO CONUNDRUMS.—In which of the public schools should we expect the boys to make their marks, and come out patriotic young men?—*Lincoln*.

With what street in San Francisco would you suppose the ladies are particularly pleased with?—*Sut-her*.

What street is so named that it reminds one of an eccentric foreigner?—*Turk*.

What street is like a part of a horse.—*Main*.

Riddle.

I am always in light, but am absent in day,
I dwell too in night, but in darkness ne'er stay.

In morning I'm found and in evening so fair,
I'm ne'er seen in earth, but am midway in air.

ANSWERS TO LAST WEEK'S PUZZLES.—No. 1 San Joaquin. No. 2—Tulare No. 3—Humboldt.

NEVER put off until to-morrow what can be done to-day.

DOMESTIC ECONOMY.

The Air-Tight Stove.

The most economical and healthful stove which can be employed for heating rooms is the "air tight," and wood is decidedly the best kind of fuel to be employed. In employing such stoves, however, care should be taken that a small vent be left open for the escape of gases up the flue, so long as the wood continues to blaze. Green and even dry wood, when first lighted, throws off large quantities of steam and gases, incombustible in an ordinary "air tight," which must be allowed to pass off, else the gases will either gradually escape into the room, to the great detriment of health, or they will collect in the stove until sufficient heat is generated to fire them, when an explosion will come, attended with unpleasant if not disastrous consequences.

Moreover, so long as the wood continues to blaze, whatever the quantity put in, the stove never throws out so much heat as it does after the wood has ceased to burn with a large flame, and the dampers of the stove can be safely closed. In a sick chamber, especially, the dampers should never be closed so long as a small blue flame is observed burning over the bright embers.

Lighting the Fire in a Stove.

Many persons have often noticed the extreme difficulty encountered in lighting the fire in a stove especially in a still, damp morning. The stove at first won't draw, even vigorous "blowing" will not suffice; and then when it does start, it is with a sort of an explosion or outward rush of air which fills the room with smoke and gas, oftentimes puffing the unpleasant fumes into the face of the operator.

This trouble is caused by the difficulty encountered in overcoming the inertia of the long column of air in the pipe or chimney, by the small column of air that can be forced up through the interstices of the wood and coal, at the bottom of which the fire is kindled. All this may be remedied by simply putting a few shavings or bits of dry paper on the top of the wood or coal, and first lighting that, it immediately bursts into a blaze, because the air has perfectly free access to it from all sides, the heated air forces its way into the chimney and establishes there an upward current. The match can then be applied to the kindling under the fuel which will readily light and, if dry, burst into a brisk blaze.

SAVE THE WASTE.—Children should be taught to be economical and saving; and in no way can this be better inculcated than by encouraging in them the habit of saving that which is generally looked upon as worthless. We once knew of a boy who gathered feathers enough to make a bed and pillows, by picking up the loose feathers he found about the poultry yard and farm buildings. Children have also obtained quite a deposit at the savings bank by saving the pennies rather than spending them for candy and oranges. The waste made in the family in the shape of old papers, linen and cotton shreds and all such material as is purchased by the rag-man, should never be swept out at the door or burned up. A waste bag hung up out of sight in some convenient place will catch a good deal that will turn for money, and the children of the household should early be taught to save whatever the rag-man will buy. This in the course of a year will amount to considerable. Try it, little children, and see.

ANIMAL FOOD.—Many of the ancient never eat animal food. Pintarch, a learned Grecian, abstained from it altogether. He lived to be nearly eighty years old, and was a hard worker. He is said to have written three hundred philosophical works. One hundred and twenty-five of them are extant. This celebrated man once wrote: "You ask me for what reason Pythagoras abstained from eating the flesh of brutes; for my part I am astonished to think what appetite first induced man to taste of a dead carcass; or what motive could suggest the notion of nonrishing himself with the flesh of dead animals." People could live much cheaper if they were to adopt Plutarch's views.

TO PRESERVE CLOTHES PINS.—They should be boiled a few moments and quickly dried, once or twice a month, when they become more flexible and durable. Clothes lines will last longer and keep in better order for wash-day service, if occasionally treated in the same way.

OLD CLOTHES.—Sneer not at old clothes; they are made holy by long sacrifices; by careful folding-away, that they may last until the dear ones are provided for. If many an old coat could speak, what tales it would tell of the noble heart beating underneath. Yonder rusty garment would repeat the struggles of a devoted father whose son is earning laurels at the college, hard by. How he counted his farthings and choked down his pride, that his boy, his noble boy, might yet do him honor. That faded shawl, folded tightly over those spare shoulders. Year after year has the mother cleansed and mended and laid it carefully away (as she called it) "good and new," that her blue-eyed daughter might have an education. And the mother smiles over the dim, dusky-patterned ribbon and prime old merino, that were cleaned up to enable her to buy Bessie a pretty bonnet and a dress such as she deserved. Oh, that blessed self-denial of aspiring poverty! Hallowed be the old bonnets, old cloaks, old coats, aye, and old shoes, when such love points to them as monuments. More than one bright and shining light owes its brilliancy to old clothes; more than one star in literature, philosophy and science.

HOW TO MAKE MOLASSES CANDY.—This is the season of the evening socials, and "a candy pulling" is often the element of the happy entertainment. An exchange suggests the following mode of making the "taff," which is a decided improvement on the old process, that requires from one to three hours to complete it. For a small number, say four persons, the following quantities will answer; for a larger increase proportionally: One teacupful of molasses, half a teacupful of any kind of sugar, a teaspoonful of vinegar, a piece of butter the size of half a nutmeg. Put the whole in a skillet, on a hot fire, and boil exactly ten minutes, stirring it all of the time, then set it off to cool. Pull it as soon as it is hard enough. If you want some nice candy to eat, add a teacupful of hickory nut kernels to the above compound and stir while hot. Let it cool and it will be ready for use.

TO CLEAN KID GLOVES.—Have ready a little new milk in one saucer, a piece of white soap in another, and a clean cloth folded two or three times. On the cloth spread out the glove smooth and neat. Take a piece of flannel, dip it in the milk, then run off a good quantity of soap on the wetted flannel, and commence to rub the glove toward the fingers, holding it firmly with the left hand. Continue this process until the glove, if white, looks of dingy yellow, though clean; if colored, till it looks dry and spoiled. Lay it to dry, and the operator will soon be gratified to see that the old glove looks nearly new. It will be soft, glossy, smooth and elastic.

TO COOK VEGETABLE OYSTERS.—A writer in an agricultural exchange says: "Our plan is to wash them, scrape them, and slice them into cold water, so they will not turn black. When you are ready to cook them, put them into sufficient water to cover them; stew till soft, then add as much sweet milk as you like, season with salt and pepper, stir a tablespoonful of flour into as much butter as you need to season the dish; put it into a pan and let it boil up once, and it is ready to be served. Put in a slice of toast if you like."

HOUSEKEEPING HINTS.—All kinds of poultry and meat can be cooked quicker by adding to the water in which they are boiled a little vinegar or a piece of lemon. By the use of an acid there will be considerable saving of fuel, as well as shortening of time. Its action is beneficial on old, tough meats, rendering them quite tender and easy to be digested. Tainted meats and fowls will lose their bad taste and odor if cooked in this way, and if not used too freely, no taste of it will be acquired.

IN ROASTING A TURKEY.—If the legs and wings are covered with common clean writing paper, securely fastened over them, their parts will be as nicely cooked and juicy as any other part of the animal, and not dried up or burned, as when cooked without such a protection. The idea may not be new to all, but it was to us until we saw it in the *Maine Farmer*.

TO CLEANSE THE INSIDE OF JARS.—Fill them with water and stir in a spoonful or more of perlash; empty them in an hour, and if not perfectly clean, fill again and let them stand a few hours. For large vessels lye may be used.

FROZEN potatoes make more starch than fresh ones.

Domestic Receipts.

VELVET BISCUIT.—In the milk and two well-beaten eggs put the yeast, soft butter and salt. Stir into it sufficient flour to make a soft dough; strew some flour over it; lay a warm towel over the pan, and set it in a warm place to rise (three hours in the summer, or until light in the winter). Dip your hands in flour, and work the dough down; make it into small flat cakes; lay them on a buttered tin pan, quite near each other, and bake them in a quick oven ten or fifteen minutes, or until done.

APPLE CUSTARD.—Peel, quarter and bake rich tart apples, or stew them slowly in a very little water; fill a pudding-dish two-thirds full. When cold, pour over a custard made by stirring into a quart of boiling milk a tablespoonful of flour wet up with a little milk, two spoonfuls of white sugar, and two eggs. Flavor with lemon. Bake in a quick oven. To be eaten cold.

SOUR APPLE PIE.—Take nice tart apples; spitzenbergs are best, although pippins, greenings, russets, etc., are excellent; slice them, fill the undercrust an inch thick; sprinkle sugar over them: add a spoonful or two of water; cover with a thin crust, and bake three-fourths of an hour, in a moderate oven.

FRENCH CREAM.—Half an ounce of gelatine, soaked in a cup of light wine, let it boil over the fire, then stir in one pint of sweet cream. Let it nearly boil again, sweeten to your taste, and cool in a mould. To be eaten with cream. To be made the day before using.

GRAHAM CAKE.—One cup sugar, one cup good rich buttermilk, one teaspoon saleratus, a little salt; nutmeg or allspice; stir a little thicker than for cake with eggs in.

RED INK.—Carmin (Nakarati) two grains, rain water half an ounce, water ammonia twenty drops. This is fine for ruling and bank purposes.

FRIED SQUASH.—Slice thin, dip in egg, then in flour, and fry in butter. Excellent.

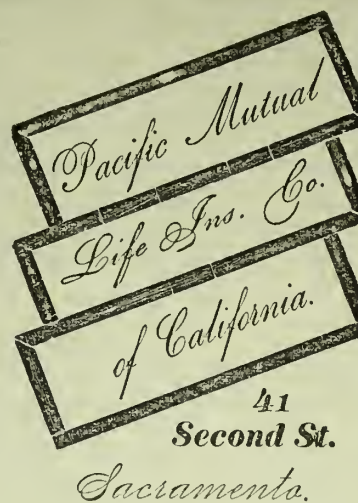
Mechanical Hints.

Plastered Walls and Ceilings.

Particular care should be used in selection as to the strength and length of the hair to be used in the plaster for ceilings, and also as to the substance of the laths, which should in all cases be double. The plaster should be laid on with the minimum of thickness, a point much neglected. With regard to the quality of the sand, it cannot be too good. Sand is apt to make the plaster too "short" only when there has been too much employed, and that with weak chalk lime. It is impossible that the admixture of loamy earth in any proportion can benefit any description of mortar or plaster, and therefore clean grit must be preferable to either pit or road sand, for loam in any shape is detrimental in proportion to its amount.

One word with regard to a possible substitute for hair, as hair is becoming every day more difficult to obtain. In the pulling down of portions of old work for the reparation of the Lollards' tower at Lambeth lately, some plaster of remarkable hardness was found. It was far superior to any of the rest, and upon examination was discovered to have been mixed with chopped rye straw (recognized by several of the heads which had been mixed up) instead of hair. This plaster was wonderfully sound and firm. Possibly other descriptions of straw might be found equally suitable for the purpose, and at any rate it would be quite worth while making some experiments on this subject.

Having obtained a really good plaster to work with, it is much to be wished that it might be applied in a somewhat more solid and durable manner than is usual, and that instead of flimsy laths nailed under the joists on each side of partitions to receive it, short pieces of wood were fixed in between the joists or quarters and the plaster trowelled on from front and back, so as completely to envelop these pieces of wood. By this means the plastering on partitions and ceilings would not be merely suspended coats, but the integral portions of the structure, which, when dry, would become most imperishable and incombustible. Thus, instead of being flimsy, ill-connected things, inviting fire to destroy them, and the means of conducting that destroying element to all the other portions of the building, they would be, as it were, thin vertical or horizontal shields to prevent fire from spreading and touching the timbers. The use of plaster is, to a certain extent, common in Europe, and well deserves the attention of all architects.—*Scientific American*.



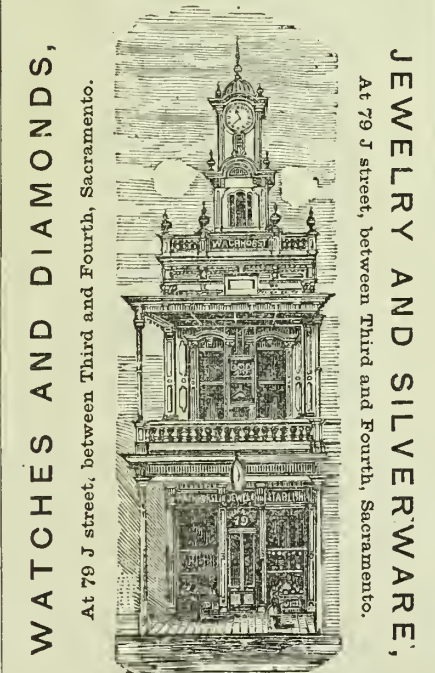
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of order, sews the heaviest or lightest goods, and
is remarkable for the great variety, perfection
and durability of its work.

It is the only Machine
Making the triple-threaded seam, with the twisted loop
stitch, the strongest and most elastic made.

The Willcox & Gibbs
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22v2-9m

FACTS LITTLE KNOWN RELATIVE
—TO—
LIFE INSURANCE.

Losses Paid on the Pacific Coast under the Massachu-
setts' Law by the NEW ENGLAND MUTUAL Life Insurance
Company of Boston:

A. C. E. Miller, Portland, Oregon, Premium overdue six
months at time of death, \$5,000.
J. W. Jones, Colusa, California, overdue four months at
time of death, \$10,000.
J. B. Baldwin, Colusa, California, overdue three months
at time of death, \$1,000.
G. L. Porter, Virginia City, Nevada, overdue ten days at
time of death, \$2,500.
L. G. Peel, Walnut Creek, California, overdue eleven
months at time of death, \$5,000.
J. H. Calden, Princeton, California, overdue four months
at time of death, \$3,000.
J. Levison, Boise City, I. T., overdue two months at time
of death, \$10,000.
C. W. Salter, Hor's Ranch, California, overdue two
months at time of death, \$5,000.
C. O. Stevens, Danville, California, overdue one month at
time of death, \$5,000.

THE MAIN POINTS OF THE LAW UNDER WHICH
THE ABOVE CLAIMS WERE PAID.

No Insurance on Life shall be forfeited by non-pay-
ment of premium.

The net value of the Policy shall be ascertained at the
time of the lapse of the premium, and be considered a net
single premium of temporary insurance.

If the death of the party occurs within the term of tem-
porary insurance, the Company shall be bound to pay the
whole policy the same as if there had been no lapse of pre-
mium; provided, the Company shall have the right to de-
duct from the face of the Policy the amount of premium
due, with interest, at the date of death.

THE NEW ENGLAND MUTUAL LIFE
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Was incorporated in 1835. It has accumulated assets of
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Plans and specifications furnished to counties or per-
sons desiring to build. Lithographs and prices sent on
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J. A. CLAYTON, Real Estate Agent.
Office on Santa Clara street, opposite Auzem's House.
Rents collected, Tax paid, and Money invested on
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HOP ROOTS FOR SALE.

I have a lot of Choice Hop Roots for sale at \$15 per
thousand. The suckers, instead of being cut off from
the stock, were covered with earth, thus promoting the
growth of the "laterals," which are used for planting.
I can also furnish healthy Lawton Blackberry Plants at
\$8 per thousand. Orders may be addressed through
DREW & CO., of the "Rural Press," DRAKE & EMERSON,
521 Sansome st., San Francisco; W. R. STRONG, 8 and 10
J st., Sacramento; or direct to me.
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ERN GUN WORKS, Pittsburgh, Pa. Army Guns, Re-
volvers, Etc., bought or traded for. Agents Wanted.
5v2-6m

Rain Report for Sacramento.

By T. M. LOGAN, M. D., Secretary State Board of Health,
December 25, 1871.]

The rainy season commenced with a heavy rain on the 25th of October, measuring .4210 inches. In November the rainfall amounted to .1220 " In December up to the 25th the rainfall was .7820 "

Total for the season thus far .9500 " Comparing the above total with the total of the corresponding period in 1870, which was 1.575 inches, we have a balance of 7.475 inches in favor of the present season. Upon this basis we may predicate, with a degree of certainty, an ample supply of rain and a prosperous season for the agriculturist.

CITY MARKET REPORT.

DOMESTIC PRODUCE AT WHOLESALE.

The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., Dec. 28.

FLOUR—We note a fair local demand with very little demand for export. Sales reported embrace 4,000 bbls. Cal. extra, 1,500 do. Cal. superfine, and 3,000 Oregon extra. We quote prices as follows:

Superfine, \$6.00@6.25; extra, in sacks, of 196 lbs. \$7.00@7.25. Standard Oregon brands, extra may be quoted at \$7.25.

WHEAT—In limited demand, and but little inquiry for export. Prices show a further decline. Sales aggregate 8,000 sacks fair to choice at \$2.25@2.35 per 100 lbs. Quotable at close at \$2.20@2.30 per 100 lbs.

The latest Liverpool market quotation comes through at 12s. 6d. per cent, without change.

BARLEY—Has been very quiet during the past week, at a decline in prices. Sales embrace 4,000 sacks ordinary coast to choice bay, at \$1.75@1.95, which is the range at close.

OATS—Market has been inactive during the week under review. Sales 2,000 sacks ordinary coast to choice bay, at \$1.75@1.96. Quotable at close at \$1.75 and 1.90 per 100 lbs.

CORN—Is quotable at 2.10@2.20 for yellow and white respectively per 100 lbs.

CORNMEAL—Is quotable at \$2.75@3.25 from the mill.

BUCKWHEAT—Is dull at \$2.50.

RYE—According to quality is quotable at \$2.37@2.40.

STRAW—Quotable at \$7.00@8.00 by the cargo.

BRAN—Selling at \$30@32.50 per ton from the mill.

MIDDLINGS—For feed, are selling at \$12.50 per ton from mills.

OIL CAKE MEAL—In good demand at \$40 from the mill.

HAY—Receipts have been light, and prices at close are \$18@25 for fair to choice per ton.

HONEY—We quote Los Angeles comb at 12 1/2@15c. Potter's in 2-lb cans, \$4 per doz.

BEESWAX—In good demand at 40c per lb.

POTATOES—Liberal stock on hand. Different qualities are selling at 65@95c.

SWEET POTATOES—Are selling at \$2.00@2.25 per 100 lbs.

HOPS—The range is 45@65c.

HIDES—During past week 1,500 Cal. dry sold at 18@19 and 1,300 salted at 8@9 1/2c.

WOOL—There is a renewed activity in this article and burry is now saleable; sales of 170,000 lbs. are reported at full rates. Prices for good to choice shipping grades are 22@28c. Sales of burry descriptions at 21c.

TALLOW—Market quiet at 9c per lb.

SEEDS—Flax 3c; Canary, 5@7c; Alfalfa, 15@17c; Mustard—California Brown, 3@6c; Cal. White 3 1/2@4 1/2c per lb.

PROVISIONS—California Bacon 14@14 1/2c; Oregon, 15@15 1/2c; Eastern do. 13 1/2@14c; for clear and 14@15 for sugar-cured Breakfast; Cal. Hams 11@11 1/2c; Oregon, 15 1/2@16c; California Sugar-cured Hams, 17@18c; Oregon do. 17@18c; Eastern do. 19@21c; California Smoked Beef, 13@13 1/2c.

BEANS—Market continues fair. The following are jobbing rates: Pea \$3@3.50; small White \$2.75@3.00; small Butter \$2.50@2.75; large \$2.75@3.00; Pink \$3; Bayo, \$3.25@3.50; Navy \$3.50 per 100 lbs.

ONIONS—No choice in market; quotable at 75c@81.25 per 100 lbs.

NUTS—California Almonds, 8@10c. for hard and 18@25 for soft shell; Peanuts, 5@7c; Pecan, 25c per lb Walnuts, new, 12 1/2c; Hickory, 12c; Brazil, 16c; Chili Walnuts 10c; Eastern Chestnuts 35c; Cocoanuts \$7@8 per 100.

COFFEE—Costa Rica 21c; Guatemala 20c; Java 25 1/2c; Manilla, 19 1/2c; Rio 19 1/2c@20c. Ground Coffee in cases 30c.

SPICES—Allspice 14@15c. Cloves 16@17c. Cassia 35@36c. Nutmegs \$1.00@1.10. Whole Pepper 19c. Ground Spices—Allspice \$1.00 per doz.; Cassia \$1.50; Cloves \$1.12 1/2c; Mustard \$1.50; Ginger and Pepper, each \$1.00 per doz.; Mace \$1.50 per lb.; Ginger 15c per lb.

FRESH MEAT—Further advance has taken place in most descriptions. We quote slaughterer's rates as follows:—

BEEF—American, 1st quality, 10@12 1/2c per lb. do. 2d quality 9@10c per lb.; do. 3d do. 7@8c.

VEAL—Quotable at 8@11c.

MUTTON—10@12 1/2c per lb.

LAMB—None in market.

PORK—Undressed grain-fed is quotable at 6@6 1/2c, dressed, grain-fed, 8 1/2@9c.

POULTRY—Live Turkeys, 20@21c per lb, dressed, 22@25c; Hens and large Roosters, \$8.50; Spring Chickens, \$6.00 @ 7.00; Ducks, tame, \$9.00@10.00 per doz.; Geese, \$15@18 per dozen.

WILD GAME—Dealers pay the following prices for lots from the country: Hare, \$3.00@

\$3.50; Rabbits, \$1.25@1.50; Quail, \$1.75@1.87 1/2; English Snipe, \$1.75@2.00; Mallard Ducks, \$3.00@3.50; Small Ducks, \$1.50; Wild Geese per doz. \$1.50@3.00; Venison per lb., 6@8c; Terrapin per doz., \$2.00@2.50.

DAIRY PRODUCTS—California Butter, common to good in rolls, may be quoted at 40@50c; California firkin butter, 27 1/2@32 1/2c. Pickled 25@32 1/2. Eastern firkin 20@30c.

CHEESE—California 16@19c, Eastern, 16@17c. Eggs—California fresh, 65@70c per doz.

LARD—California 13@14; Oregon in bbls. and kegs 12 1/2@13c; Eastern in cases 14 1/2@15 do in tcs. 12 1/2@13.

FRUIT.

| | | |
|---------------------------------------|---------|---------|
| Mexican Oranges, | \$25 00 | @ 30 00 |
| California do | 30 00 | @ 25 00 |
| Limes, per 1,000, | 4 00 | @ 15 00 |
| Australian Lemons, per 100, | 10 00 | @ 10 00 |
| Sicily do per box, | 2 50 | @ 3 00 |
| California do, per box, | 2 50 | @ 3 00 |
| Bananas, per bunch, | 75 00 | @ 2 00 |
| Apples, eating, per box, | 70 00 | @ 1 00 |
| do cooking do, | 75 00 | @ 2 00 |
| Pears, cooking, per box, | 1 25 | @ 1 50 |
| Quinces, per box, | 1 50 | @ 2 00 |
| Grapes, Mission per box, | 1 50 | @ 2 00 |
| Meat of Alexandria do, per lb., | 5 00 | @ 15 00 |
| Flame Tokay do, per lb., | 5 00 | @ 8 00 |
| Black Morocco do, per lb., | 8 00 | @ 10 00 |
| Eastern Cranberries per bbl., | 15 00 | @ 16 00 |

DRIED FRUIT.

| | | |
|----------------------------|-------|----------|
| Apples, per lb., | 6 00 | @ 7 00 |
| Pears per lb., | 8 00 | @ 10 00 |
| Peaches, per lb., | 8 00 | @ 9 00 |
| Apricots, per lb., | 8 00 | @ 8 1/2 |
| Plums, per lb., | 6 00 | @ 8 00 |
| Pitted do, per lb., | 20 00 | @ 22 00 |
| Raisins per lb., | 10 00 | @ 15 00 |
| Black Figs, per lb., | 8 00 | @ 12 1/2 |
| White do, | 15 00 | @ 20 00 |

VEGETABLES.

| | | |
|----------------------------------|-------|---------|
| Cabbage, per lb., | 1 1/2 | @ 1 1/2 |
| Garlic, per lb., | 1 00 | @ 1 00 |
| Marrowfat Squash, per ton, | 9 00 | @ 10 00 |

GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a good demand for seasonable articles under this head, the rains having given an impetus to the trade.

BUILDING AND FENCING MATERIALS—The local trade has been fair, and only moderate demand for export. Dealers pay for cargoes of Oregon as follows: Rough \$16; do dressed \$30; Spruce \$17@18. Redwood Lumber Association's prices are as follows:

| | | |
|--|---------|-----------|
| Merchantable worked rustic, | \$31 00 | @ \$32 50 |
| Refuse do do, | 20 00 | @ 21 50 |
| Merchantable surfaced and rough clear, | 28 00 | @ 30 00 |
| Refuse surfaced and rough, | 13 00 | @ 15 00 |
| Merchantable headed flooring, | 28 00 | @ 30 00 |
| Refuse do do, | 18 00 | @ 20 00 |
| Merchantable rough, | 15 00 | @ 16 00 |
| Refuse do do, | 11 00 | @ 12 00 |
| Fancy Pickets, | 22 50 | @ 25 00 |
| Rough Pickets, | 15 00 | @ 16 00 |

The mill price for cargo lots from Northern Ports is \$9.00@10 for timber, and \$17.50@20 for flooring.

BAGS AND BAGGING—There is no demand at present, and prices in consequence are largely nominal.

BOOTS AND SHOES—There has continued during the past week only a moderate demand for seasonable goods at unchanged rates.

FISH—We quote Pacific Dry Cod in bundles at 5c, and in cases at 8@8 1/2c; Salmon, in bbls. \$5.50@7.50, hf do, \$3.50@4.50; Case Salmon, \$2@3 per doz for 1@2-lb cans respectively; Pickled Cod, \$4.50 in hf bbls and \$8 in bbls; Puget Sound Smoked Herrings, 60@85c per box; Mackerel, hf bbls, new, per rail, \$12; do in kits, \$3; extra mess do, \$5; No. 1, via Cape Horn, \$8@10 for hf bbls and \$2.50 for kits; Smoked Salmon, 7@7 1/2c per lb.

NAILS—Quotable at \$5 50@7.75 for invoice lots ex ship.

PAPER—California Straw Wrapping, sell at \$1.50 per ream.

PAINTS—We quote White Lead at 10@12 1/2c; Whiting, 2c; Chalk 2 1/2c per lb.

RICE—Sales of 1,000 mats China, in lots private. We quote China No. 1 at 8 1/2@8 3/4c and No. 2 at 7@8c per lb; Siam, quotable at 7@7 1/2c in mats; Carolina, 10c; Hawaiian Table, 9c per lb.

SUGAR—We quote Cal. Cube at 14 1/2c; Circle A Crushed, 14 1/2c, and Granulated 14c; Yellow Coffee and Golden C, 12 1/2@13c; Hawaiian 8@12c as extremes per lb.

SYRUP—Prices may be given as follows: 82 1/2c in bbls, 85 in hf bbls, and 90c in kegs.

SALT—We quote California Bay at \$5@15; Carmen Island, in bulk, \$13; Liverpool Coarse, \$18@20; do Stoved, \$22.50 per ton.

SOAP—The prices for local brands at 5@10c, and Castile at 11 1/2@12 1/2c per lb.

TEA—We quote Hyson at 60@75c; Gunpowder and Imperial, 95c@1.05; Young Hyson and Moyune, 90c@1.15; Foo Chow Oolong, 50@90c; Pouchong, 37 1/2@45c; Souchong, 50@75c; Japan 40@75c per lb.

THE farmers of Contra Costa county have formally approved the principles of a bill which requires every land-owner in the county to exterminate the squirrels on his land, and, in case of his failure to do so, authorize a public officer to attend to the matter, the expense to be a lien on his land, and to be collected in the same manner as taxes.

CATTLE DYING.—It is stated that in some portions of the State the cattle are suffering much from the continued severe weather, and the low state of flesh to which they were reduced by the destruction of the old pastures by the early rains. Many have died in consequence.

San Francisco Retail Market Rates.

THURSDAY NOON, December 28, 1871.

MISCELLANEOUS.

| | | |
|-------------------------------|------|--------|
| Butter, Cal. fr. lb. | 65 | @ 70 |
| Pickled, Cal. lb. | 45 | @ 50 |
| do Oregon, lb. | 25 | @ 30 |
| Honey, per lb., | 25 | @ 30 |
| Cheese, per lb., | 20 | @ 25 |
| Eggs, per doz., | 18 | @ 20 |
| Lard, per lb., | 10 | @ 12 |
| Sugar, cr., 65 lb. box, | 1 00 | @ 1 10 |
| Brown, do, per lb., | 10 | @ 13 |
| Beet, do, | 1 00 | @ 1 10 |
| Sugar, Map. lb., | 25 | @ 30 |
| Beans, dried, lb., | 15 | @ 20 |
| Peanuts, dried, lb., | 15 | @ 20 |
| Wool Sacks, new | 65 | @ 70 |
| Second-hand do | 65 | @ 70 |

PRODUCE, ETC.

| | | |
|----------------------------------|-------|---------|
| Flour, ex. per 50 lb. bag, | 68 25 | @ 70 |
| Superfine, do, | 67 00 | @ 68 25 |
| Corn Meal, 100 lb. bag, | 63 50 | @ 65 00 |
| Wheat, per 100 lbs. 20 | 62 00 | @ 63 50 |
| Hay, per ton | 24 00 | @ 25 00 |

FRUITS, VEGETABLES, ETC.

| | | |
|------------------------------|-------|---------|
| Pine Apples, per doz., | 5 00 | @ 5 50 |
| Bananas, per lb., | 3 00 | @ 3 50 |
| Cal. Walnuts, lb., | 15 | @ 20 |
| Cranberries, per g., | 75 | @ 1 00 |
| Cranberries, 0.5, | 60 | @ 75 |
| Pears, table, per lb., | 75 | @ 80 |
| Plums, cherry, | 6 00 | @ 8 00 |
| Strawberries, lb., | 10 | @ 15 |
| Oranges, per 100, | 30 00 | @ 35 00 |
| Lemons, per 100, | 50 00 | @ 60 00 |
| Limes, per 100, | 50 00 | @ 60 00 |
| Figs, dried, per lb., | 15 | @ 20 |
| Artichokes, doz., | 50 | @ 75 |
| Artichokes, doz., | 50 | @ 75 |
| Brussels sprouts, | 20 | @ 25 |
| Beets, per doz., | 20 | @ 25 |
| Potatoes, per lb., | 2 00 | @ 2 50 |
| Artichokes, doz., | 50 | @ 75 |
| Broccoli, per doz., | 50 | @ 75 |
| Cauliflower, | 50 | @ 75 |
| Cabbage, per doz., | 75 | @ 80 |
| Carrots, per doz., | 75 | @ 80 |
| Celery, per doz., | 75 | @ 80 |

POULTRY, GAME, FISH, MEATS, ETC.

| | | |
|-----------------------------|---------|---------|
| Chickens, piece, | \$7 1/2 | @ 8 00 |
| Turkeys, per lb., | 25 | @ 30 |
| Ducks, wild, per lb., | 50 | @ 60 |
| Tame, do, | 1 50 | @ 1 75 |
| Teal, per doz., | 3 00 | @ 3 50 |
| Geese, wild, pair, | 75 | @ 80 |
| Tame, pair, | 75 | @ 80 |
| Hens, each, | 75 | @ 80 |
| Snipe, per doz., | 50 | @ 60 |
| English, do, | 50 | @ 60 |
| Venison, per lb., | 12 1/2 | @ 15 00 |
| Antelope, per lb., | 2 25 | @ 2 50 |
| Pigeons, dom. doz., | 10 | @ 15 |
| Wild, do, | 50 | @ 60 |
| Hares, each, | 40 | @ 50 |
| Rabbits, tame, | 50 | @ 60 |
| Havard, do, | 40 | @ 50 |
| Squirrel, per pair, | 25 | @ 30 |
| Beef, tend, per lb., | 20 | @ 25 |
| Corned, per lb., | 10 | @ 12 |
| Smoked, per lb., | 15 | @ 20 |
| Pork, rib, etc., | 12 1/2 | @ 15 00 |
| Chops, do, | 15 | @ 20 |
| Veal, per lb., | 15 | @ 20 |
| Butter, | 15 | @ 20 |
| Mutton chops, | 15 | @ 20 |
| Lamb, per lb., | 15 | @ 20 |
| Tongues, beef, ea, | 15 | @ 20 |
| Tongues, pig, ea, | 15 | @ 20 |
| Bacon, Cal., per lb., | 18 | @ 20 |
| Oregon, do, | 18 | @ 20 |

* Per lb. † Per dozen. ‡ Per gallon.

San Francisco Metal Market.

[Corrected weekly by Hooker & Co., 117 and 119 Cal. street.

PRICES FOR INVOICE.

Jobbing prices rule from ten to fifteen per cent. higher than the following quoted rates.

THURSDAY, December 28, 1871

| | | |
|---|--------|----------|
| IRON.—Duty: Pig, \$7 per ton; Railroad, 6c per 100 lbs; Bar, 10 1/2c per lb; Sheet, polished, 3c per lb; Common, 1 1/2@1 3/4c per lb; Plate, 1 1/2c per lb; Pipe, 1 1/2c per lb; Cast iron, 1 1/2c per lb. Scotch and English Pig Iron, per ton, \$32 50 @ 35 00. White Pig, per ton, | 45 00 | @ 50 00 |
| Refined Bar, bad assortment, per lb., | 04 | @ 05 |
| Refined Bar, good assortment, per lb., | 05 | @ 06 |
| Plate, No. 1 to 4, | 05 | @ 06 |
| Sheet, No. 10 to 13, | 05 | @ 06 |
| Sheet, No. 14 to 20, | 06 | @ 07 |
| Sheet, No. 24 to 27, | 06 | @ 07 |
| Steel Shoes, | 7 50 | @ 8 00 |
| Nail Rod, | 9 | @ 10 |
| Norway Iron, | 7 1/2 | @ 8 00 |
| Roller Iron, | 5 | @ 6 |
| Other Irons for Blacksmiths, Miners, etc., | 5 | @ 6 |
| COPPER.—Duty: Sheathing, 2 1/2c per lb; Pig and Bar, 2 1/2c per lb. Sheathing, Yellow, | 24 | @ 25 |
| Sheathing, Old Yellow, | 24 | @ 25 |
| Composition Bolts, | 24 | @ 25 |
| TIN PLATES.—Duty: 25 per cent. ad valorem. Plates, Charcoal, 1X per box, | 12 00 | @ 13 00 |
| Plates, 1 1/4 Charcoal, | 11 00 | @ 12 00 |
| Roofing Plates, | 11 00 | @ 12 00 |
| Banca Tin, Slabs, per lb., | 11 | @ 12 |
| STEEL.—English Cast, per lb., | 16 | @ 17 |
| Drill, | 16 | @ 17 |
| Flat Bar, | 16 | @ 17 |
| Plough Points, | 3 75 | @ 4 00 |
| Russia (for mouldboards), | 12 1/2 | @ 13 00 |
| QUICKSILVER.—per lb., | 63 | @ 65 |
| LEAD.—Pig, per lb., | 05 1/2 | @ 06 1/2 |
| Sheet, | 9 | @ 10 |
| Pipe, | 9 | @ 10 |
| Bar, | 08 | @ 09 |
| ZINC.—Sheets, per lb., | 10 | @ 10 1/2 |
| BORAX.—Refined, | 25 | @ 30 |
| Borax, crude, | 5 | @ 6 |

Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109 Post st.]

SAN FRANCISCO, Thursday, December 28.

SOLE LEATHER.—The demand is still equal to the supply, and prices still continue firm.

Santa Cruz Leather

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M. K. LAUDEN, President, San Francisco, Cal.

IN TOWN.—Mr. L. P. McCarty, traveling correspondent and agent for the **PACIFIC RURAL PRESS** and **SCIENTIFIC MINING PRESS**, has been in town for several days past, and will remain with us some time longer. "Mc" is well known all over the State as a pleasant gentleman and talented correspondent, just the one to attend to the interests of the above excellent journals.—*Pojaronian, Sept. 28th.*

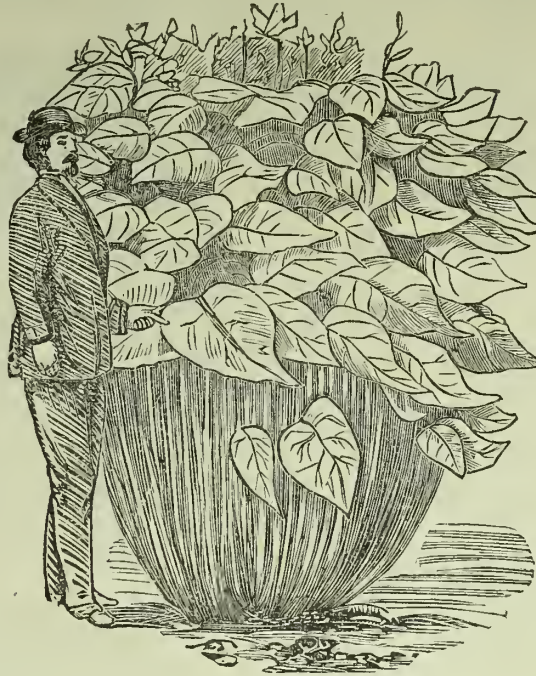
THE PEOPLE'S PRACTICAL POULTRY BOOK.—A work on the Breeds, Breeding, Rearing and General Management of Poultry, by Wm. M. Lewis. Illustrated with over 100 Engravings. New York, 1871: Sold by **DEWEY & Co.**, at this office, for \$1.75. Post paid, \$2.00.

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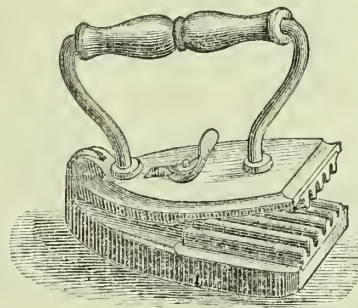
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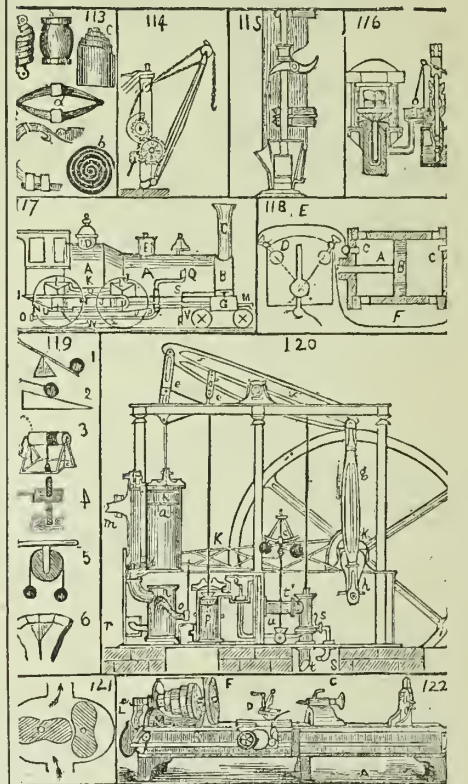


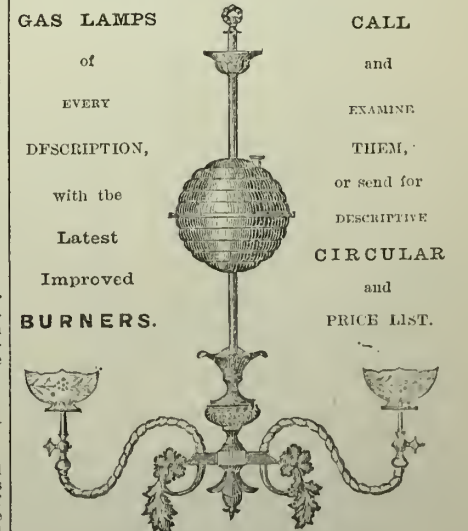
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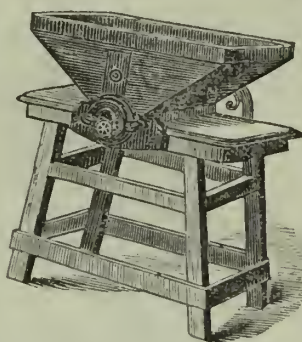
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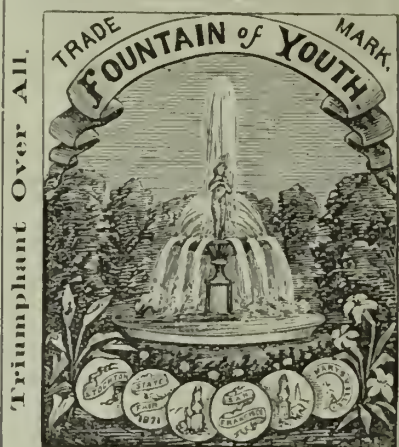
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SAN FRANCISCO, CAL.

GEO. B. BAYLEY,
Corner Sixteenth and Castro Streets, OAKLAND.

Importer and Breeder of
CHOICE POULTRY.

Every variety of Fancy Poultry constantly on hand and for sale.
Address, with stamp, P. O. Box 659, San Francisco.



Will change gray hair to its youthful color with a few applications. Suits all shades of color and complexion. Will neither stain hands, scalp or clothing. No sediment; clear as crystal. No sulphur or other bad smell, but delightfully perfumed. As a hair dressing it has no equal. It makes the hair rich in appearance, glossy and curly; cures dandruff and all other irritations of the skin, and prevents the hair from falling out. Liberal discount allowed dealers. Address orders to J. F. FUGAZI, or H. C. Kirk & Co., Sacramento; Hug & Schmidt, Agents, 335 Commercial street; Heathfield, Bogel & Co., 206 Battery street, San Francisco. Sold by all Druggists. de16-3t

SAVE \$42! WHY PAY \$80?

THE
"HOME SHUTTLE" SEWING MACHINE,
Price \$38.

This machine being as good as the best, we have no hesitation in recommending it to our friends as a superior machine for family use. We take pleasure in its exhibition, and invite all to call and examine it before purchasing elsewhere.

It has a straight needle and makes a Lock Stitch. Send for a circular.

Agents wanted in every county. Each machine warranted for five years.

E. W. HAINES, Agent.

17 New Montgomery street, Under Grand Hotel,
16v2-3m San Francisco.

Dental Patent.

THE MOST

VALUABLE

IMPROVEMENT

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That has been

Made for Years.

WIESTER & CO., 17 New Montgomery st., S. F.

WILCOX'S
IMPROVED STEAM WATER LIFTER,
With neither Engine, Piston, or Plunger.

The most Simple, Durable, and in all respects the most ECONOMICAL of all Steam Pumps. Uses the same steam twice instead of once. Any person can run it. They are used on the Central and Western Pacific R. R. from Oakland to Ogden. They are used for Water Works, Mining, Irrigation, and all other ordinary pumping. Send for Descriptive Circular and Price List. Address ALLEN WILCOX, No. 21 Fremont street, San Francisco. 16v2-3m

FINE LIVERY.

—THE—

Finest and Most Complete Livery Stable, together with the Best Turkeys in the State, are at WATSONVILLE, Cal. BILLINGS & ALEXANDER, Proprietors.

P. S.—Their new Hotel will be in full blast within fifteen days from this date. oc21-3m

Alderney Bull for Sale

by W. A. Z. Edwards, three miles north of San Jose, on the Alviso road, Santa Clara county, Cal. 15v2-3m

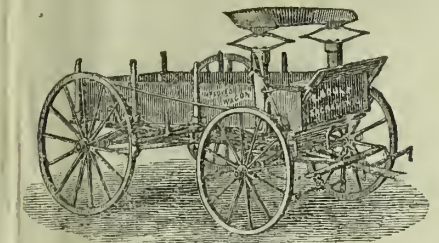
San Francisco Brush Factory,

FELDMANN, SIMPSON & CO., Proprietors,
406 Sansome street, bet. Sacramento and Commercial,
SAN FRANCISCO.

Our goods are manufactured by white labor, and sold at Eastern prices. de9-1m



MATTESON & WILLIAMSON'S
GANG PLOW.
 Took the Premium over all at the great Plowing Match in Stockton, in 1870.
 This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the Best and Most Desirable Gang Plow in the world. Send for circular to
MATTESON & WILLIAMSON,
 Stockton, Cal.
 14v2-3m



FIRST PREMIUM AWARDED at the State Fair of 1870; also First Premium at Mechanics' Fair, San Francisco, 1871; and Silver Medal and First Premium for best Farm Wagon, and First Premium for the best improved Thimble Skein at State Fair, 1871. Also State Fair GOLD MEDAL for 1871.
E. SOULE,
 Corner Tenth and I streets,
 SACRAMENTO, CAL.
 ap22-3m

JACKSON MICHIGAN WAGONS.

 The large sale of the above WAGONS has induced a number of persons to try and sell other Eastern-made Wagons, none of which have any proof that they will stand in this dry climate. JACKSON WAGONS have the highest certificates from use for ten to fourteen years, consequently the buyer runs no risk in purchasing the Jackson Wagons. All sizes for sale low by
J. D. ARTHUR & SON, San Francisco.
 N. B.—Warranted for three years. 21v2-3m

BAKER & HAMILTON,
 Sacramento and San Francisco,
 —IMPORTERS OF—
HARDWARE,
 Farming Implements,
 Machines, Etc., Etc.

Gang Plows,
 Single Steel Plows,
 Iron Plows,
 Harrows,
 Cultivators,
 Seed Sowers,
 Grain Drills,
 Etc. Etc.
 18v2-3m

J. ROCK'S NURSERIES,
SAN JOSE.

ruit and Ornamental Trees.

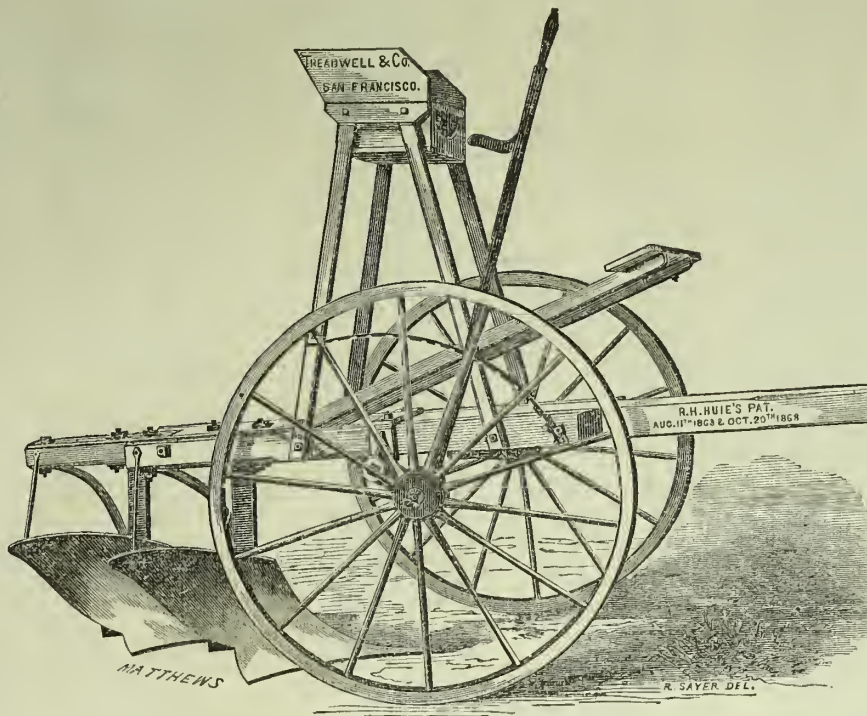
The attention of every Planter, Nurseryman and Dealer is called to our large and superior stock of

ruit and Ornamental Trees,
 Grape Vines and Small Fruits,
 Shrubs and Plants, Etc., Etc.,
 IN LARGE QUANTITIES, AT LOWEST RATES.

Catalogue furnished on application.
 21v2-tf **JOHN ROCK,** San Jose, Cal.

SWEET CHESTNUT TREES.
 ONE-HALF MILLION, besides a large general Nursery stock. A Sixteen-page Circular Free. Also a Trade list for Nurserymen and Dealers. Can send safely to California. Small Trees by mail; large ones by freight express. Address **STORRS, HARRISON & CO.,**
 1v2-6m Painesville, Lake Co., Ohio.

HUIE'S PATENT GANG PLOWS---PRICES REDUCED.



HUIE'S PATENT GANG PLOW.
 Having purchased the Gang Plows imported by Treadwell & Co., at very low figures, we are enabled to offer them at greatly reduced prices—below the cost of importation—giving a Gang combining

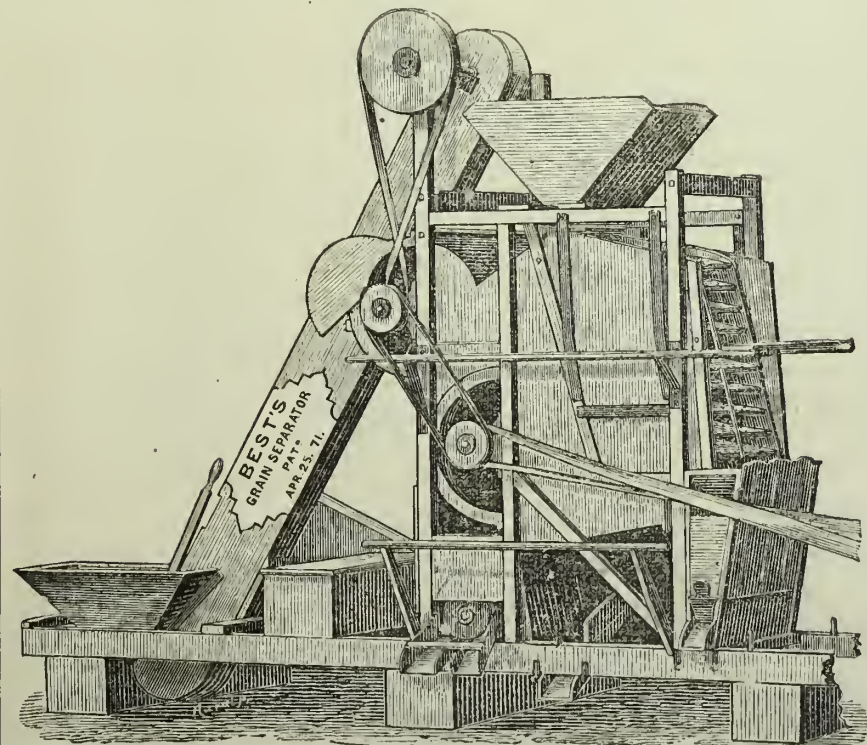
Simplicity, Utility, Durability and Low Price.
 They are selling very rapidly and we would advise early orders. This is the cheapest GOOD Gang offered. Being boxed, the transportation is low.
 Price of Steel Gang, \$60. Price of Collins' Gang, \$75. Without Extra Shares.
 For an order of five Huie Steel Gangs we will take off ten per cent. Address

BAKER & HAMILTON,
 Manufacturers and Importers of all kinds of Agricultural Instruments and Hardware,
 de30-4t SAN FRANCISCO AND SACRAMENTO.

Best & Brown's Unrivalled Seed Separator.

PATENTED APRIL 25, 1871.

We wish to call the attention of Farmers, Millers and Threshers to the great usefulness of this Machine.



It makes a perfect separation of Barley, Oats, Abess, Pink Seed, Kalo and Mustard Seeds, and other impurities, from Wheat, rendering the foulest grain (either Wheat, Oats or Barley) perfectly clean and fit for seed at one operation—common hand mills are nowhere.

We Guaranty Every Machine to do Perfect Work
 at the rate of Thirty to Sixty Tons a day. They can be conveniently attached to and run in combination with any threshing machine, and driven by the same power.

We wish it distinctly understood (and we mean all we say) that we clean grain that is too foul for the flouring mill separators, at one operation.
 Light Horse Powers, adapted to driving the Separator, furnished to order.
 State and County Rights for sale on reasonable terms.

For further particulars address
BEST & BROWN,
 Manufacturers and Sole Proprietors of the Patent, Marysville, Cal.
 Send for Circular. (2v23-sa) P. O. Box 206.

KELSEY'S NURSERIES.



OAKLAND.
 Established in 1852.
CITY DEPOT.
 317 Washington Street.....SAN FRANCISCO.
 The Proprietor having upwards of
 100 ACRES OF NURSERY GROUNDS,
 well stocked with all the leading and best varieties of Fruit Trees and Fruit Bnshes; also Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms and with dispatch.

Choice Roses and Pot Plants
 of every variety. Trees and Plants securely packed to travel any distance.
FOREST TREES
 of Anstralia, Enrope, China and Japan; in fact, we aim to have and to get all and everything desirable.
 Parties planting can find in this establishment whatever may be wanted, for use and beauty, in furnishing a place without being obliged to go from one Nursery to another.
W. F. KELSEY, Proprietor.
 21v2-3m

New York Seed Warehouse,

C. L. KELLOGG,
 427 Sansome Street, near Clay,
 SAN FRANCISCO, CAL.,

Importer and Dealer in
Garden, Field, Fruit, Flower

AND TREE SEEDS,
Ramie Plants.
 Pure Alfalfa, Mesquite Grass, Etc.

DUTCH BULBOUS ROOTS.
 Imported Direct from the
 First Flower Nurseries, in Vozelenzang,
 23v2-3m HAARLEM.

Seeds! Seeds!
 New California raised ALFALEA CLOVER SEED, sold in quantities at J. P. SWEENEY & CO.'S
Seed, Tree and Plant Warehouse,
 409 and 411 Davis street, San Francisco.

Surprise Oats,
 At \$8 per 100 lbs. All kinds of
Seeds, at Wholesale and Retail,
 Sold by J. P. SWEENEY & CO.,
 409 and 411 Davis street, S. F.

Ramie!
ROOTED PLANTS,

Of the above valuable textile, raised in this State, for sale by the undersigned, in lots to suit, where further information in regard to Soil, Cultivation, etc., will be given.

Inquire of **J. P. SWEENEY & CO.,**
 Seedsmen, 409 Davis street, S. F.,
 Or of **JOSEPH GRAHAM,**
 22-v2-3m Haywards, Alameda Co., Cal.

Garden Seeds.
 I have on hand and will be constantly receiving an
Assortment of Garden Seeds,
 To which I invite the attention of my customers and the public generally. Will also receive orders for
Trees, Plants, Shrubs, Etc.,
 Grown at Oak Shade Nursery.....Davisville.

ARTHUR FLEMING,
 Apothecary and Druggist, San Leandro, Cal.
 22v2 3m

Ramie Roots for Sale,
 IN LOTS TO SUIT.

BY JOHN S. DRURY,
 At C. F. RICHARDS & Co.'s Drug Store, S. W. corner of Clay and Sansome streets, San Francisco.,
 And by **W. W. DRURY,** at **RAMIE NURSERY,**
 On American River, near Central Pacific Railroad Bridge south side, Sacramento.
 21v2-3m

From July 1, 1871, to Dec. 30, 1871.

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